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Railway Age

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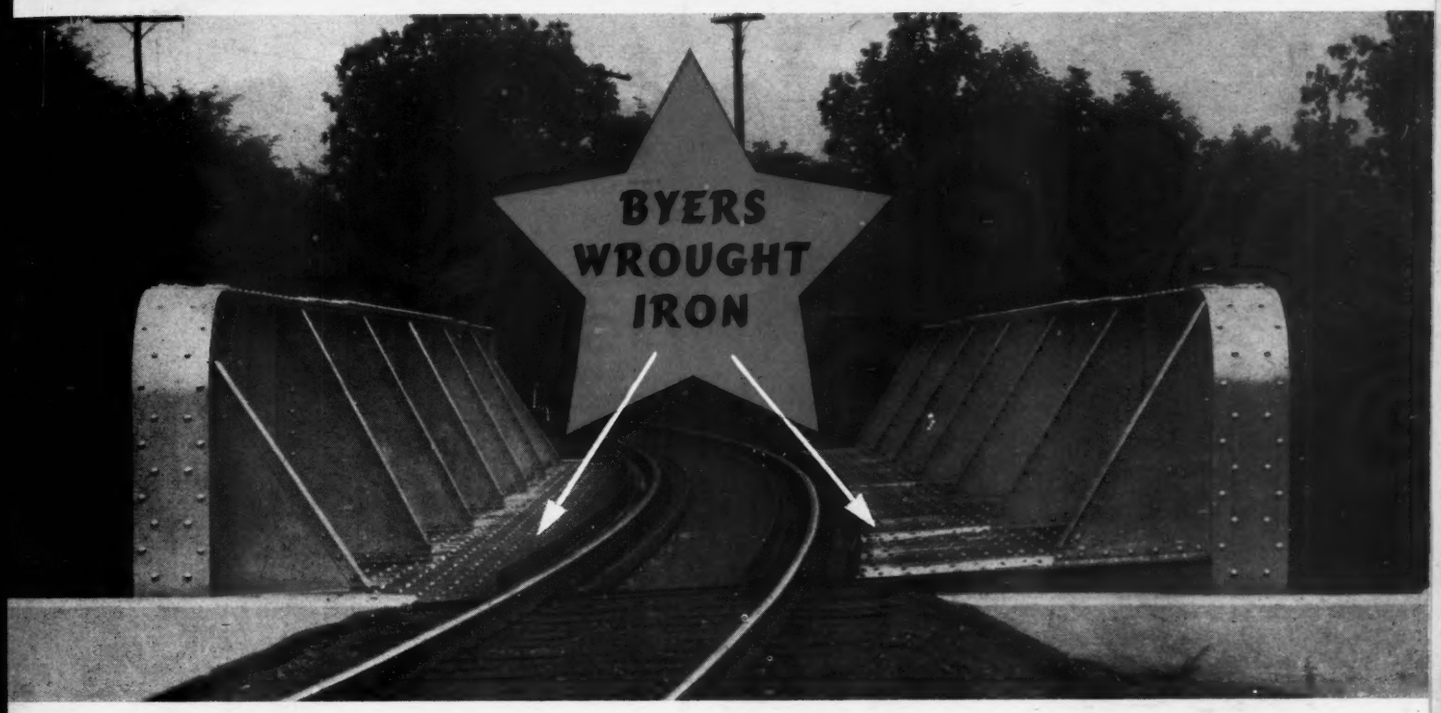

This Deck is Designed for *Double-duty*

With all metals vital to the war program, and conservation a duty as well as a need, if there ever was a time when doing a job *once* and doing it right was all-important, it is now.

The engineers who designed this Shumaker Underpass, Randolph County, West Virginia, recognized this fact in a very practical way, by designing the deck for *double* duty; to protect highway traffic against falling materials—and to protect the maintenance department against excessive repairs.

Railroad men usually know from individual experience the corrosion problems involved in these applications—as well as the best solution. Run-off water, drainage from coal cars which usually contains leached sulphur compounds, and drippings from refrigerator cars, are all threats to bridge life. Roads carrying heavy volumes of refrigerated traffic frequently get only half the life from track fastenings that are secured elsewhere, and millions of repair dollars have been expended from this one cause.

In discussing the problem, the bridge engineer of a large railroad said, "It has been observed that members of old wrought iron bridges, which have been subjected to the action of brine drippings have suffered little reduction in sectional area, and even after many years exposure such structures are still in good condition. Most bridge engineers will recognize this to be a fact from their own experience because nearly every railroad still has some old wrought iron bridges in service."

If you are planning any bridges —or any similar structure—where severe corrosion is anticipated, it will definitely pay you to consult our "Experience Pool" and find out what wrought iron has done in similar situations. This Pool represents many years accumulation of performance records, and provides a safe and sound basis for material selection. It is at your service any time you care to write. Ask also for our technical bulletin, "Wrought Iron in Bridge Construction."

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THE St. Louis-San Francisco Railway Company has created a new locomotive class — the Forty-Five Hundreds.

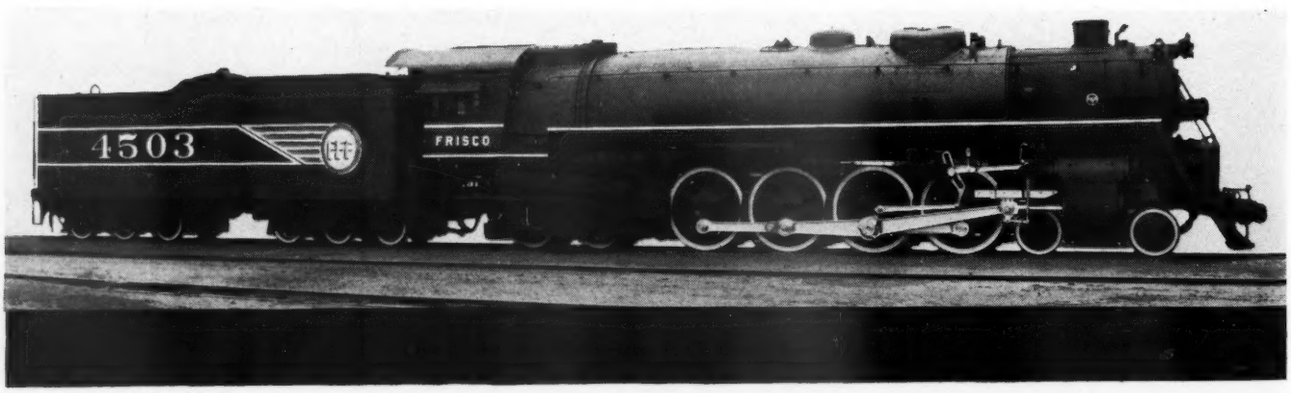
Fifteen of these locomotives are now being delivered by the Baldwin Locomotive Works. All fifteen are equipped with the following Coffin fuel economy devices.

The C-S Superheater

The Coffin Feed Water Heater System

We predict that these locomotives will establish a new record for low fuel consumption, efficient service and dependable operation.

THE J. S. COFFIN, JR., COMPANY
ENGLEWOOD, NEW JERSEY



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The Railway Age is indexed by the Industrial Arts Index and also by the Engineering Index Service

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"Union" YARD COMMUNICATION

—eliminates yard delays
—speeds yard operations!

MANY yard delays are due to the lack of an adequate communication system for the prompt delivery of orders to the engine crews regardless of distance, physical obstructions or weather conditions. In one yard, before the installation of "Union" Yard Communication, hump operation was retarded more than 50 per cent by dense fog which made it necessary for a brakeman to keep ahead of the hump engine to repeat with fusees the signal indications that the engineman was unable to see.

Now, however, these adverse conditions do not interfere with the safe and efficient operation of this yard because the hump conductor's instructions are given directly in speech to the engineman.

UNION SWITCH & SIGNAL COMPANY
SWISSVALE, PA.

NEW YORK CHICAGO ST. LOUIS SAN FRANCISCO

RAILWAY AGE

Efficiency FOR VICTORY

Railway Wage Demands

By what standards will be determined the demands of 15 labor unions for a minimum advance of 20 cents an hour in pay for about 1,000,000 railway employees? The great increase in production for war purposes, which is necessitating reduction in production for civilian purposes, and causing efforts by the government to curtail civilian purchasing power to prevent inflation, makes the principal issue involved widely different from those in any previous railway wage controversy.

The average straight-time hourly pay of these employees having been 74.8 cents in June, 1942, the advances demanded would average at least 27 per cent. Their total pay in June having been at an annual rate of $1 billion $960 million annually, the annual cost of the advances would be about $530 million. Railway net operating income in the first half of 1942 having been $552 million, it is plain that another general increase in railway rates would be necessitated. And advances to some 250,000 additional employees yet to make demands would correspondingly enhance the increases in rates required.

But any substantial advance in railway wages seems ruled out by the formula adopted by the War Labor Board in the "little steel" case. That formula was intended to prevent *all* wage advances tending to cause inflation, and is understood to have been approved by President Roosevelt. It held that the cost of living had increased 15 per cent from January, 1941, to May, 1942; and that most workers who had received advances of 15 per cent during that period were entitled to no more; although the board would continue to "give due consideration to inequalities and the elimination of substandards of living."

All railway employees secured advances in the last third of 1941. Average straight-time earnings per hour (i. e., excluding overtime) of the four classes now making demands were: Professional, clerical and general, June, 1941, 78.3 cents; June, 1942, 85 cents; increase, 8.6 per cent. Maintenance of way, June, 1941, 52.6 cents; June, 1942, 61.6 cents; increase, 17.1 per cent. Maintenance of equipment and stores, June, 1941, 71.6 cents; June, 1942, 81.1 cents; increase, 13.3 per cent. Transportation (other than train, engine and yard) June, 1941, 62.2 cents; June, 1942, 71.8 cents; increase, 15.4 per cent.

The average increase per hour (excluding overtime) of the 800,000 maintenance of way, maintenance of equipment and stores, and transportation employees involved was from 63 cents in June, 1941, to 72.3 cents in June, 1942—almost exactly the 15 per cent limit set by the "little steel" formula. And yet there are now demanded for these three classes of employees advances averaging *47 per cent* over June, 1941, and an increase in the railway payroll of $400 million a year!

To make such demands now is an extraordinary way for the labor unions to help their New Deal friends fight inflation. It will endear them to the farmers, who are making such a desperate struggle to get an even break in Washington with organized labor!

Need of Rail Becoming Acute

During the ten years ending with 1931 the railways laid 1.74 net tons of new rails in replacements per million gross ton miles of freight traffic handled. During the next ten years they laid 0.87 net tons per million gross ton miles of freight traffic. In the year 1942 they will probably relay somewhat less than 0.75 net tons of new rails per million gross ton-miles of freight traffic handled. Track is being called upon to handle the heaviest and most exacting traffic in history with a replacement of rail for wear and tear actually lower than during the decade of acute depression and under-maintenance, and less than half as great as during the most recent period of comparable traffic—the late twenties.

This depletion of the strength of the key element of the track structure is causing serious concern to railway officers and the staff of the Office of Defense Transportation, for they know that rail wear bears a direct relation to traffic; that every train that moves over a track takes a very definite toll from it; and that unless the wear is made good by renewals, disaster will result. Furthermore, they know that the railways entered the war with a vast accumulated deficiency of rail replacements, a natural result of the depression, and, therefore, are handling the present unprecedented traffic with much less reserve strength in rails than they had in 1931. In other words, their margin of safety is greatly reduced. How much more it can be reduced without disaster is problematical.

The railways are making a marvelous record in meeting the nation's demands for transportation; but this was made possible by the condition in which they put their track and structures before the depression. It is becoming more essential day by day that this record be maintained. To do this, requires materials—especially rail. The railways have prepared estimates of their bare necessities of rails for 1943. These have been given to and assembled by the O. D. T. for presentation to the War Production Board. The total has not been made public, but a knowledge of conditions presupposes that the total approximates—probably exceeds—2,000,000 tons. And such a total reflects a recognition by railway officers of the war-time demands for steel; for the railways actually purchased and laid an average of nearly 2,200,000 tons a year during the years 1926-28, when traffic was lighter and far less exacting than today.

The present war is more one of transportation, and of *rail* transportation, than any preceding war. The demands it is now making on our railways are four times as great as the maximum demands made on them by the last war. It is therefore essential that the railroads be recognized as an indispensable aid of our military forces and given recognition of their material needs on this basis. Foremost among these needs comes rail. In allocating the nation's output of steel among military agencies, the needs of the railways for rail must, in the interest of the war effort, be given greater consideration in 1943.

Shipper Co-operation

A type of co-operation that aids in winning wars is still very much in evidence in the relationship between the shippers and the railways. The advantages of speedier car handling by shippers are obvious in the immediate results of increasing the available supply of cars. Heavier loading of cars has even greater advantages, because it not only, in effect, increases the supply of cars, but also increases the supply of locomotives. Getting more freight into cars, and thus raising the average loading of trains, results in fewer trains having to be operated and fewer locomotives used to handle a given amount of traffic; and with the present demands on railway motive power, and the surplus of power almost exhausted, this is a consideration of utmost importance to shippers and railways.

In terminal operation the effects of heavier loading are no less evident. Yards throughout the country are now handling up to 3,000 cars per day more than their capacity was estimated to be only a few years ago. If the average loading of cars today were the same as it was then, the still larger number of cars required to handle today's business (if they were available) would be seriously impeding yard operations and endangering the smooth flow of traffic which has characterized railway operations in the present emergency.

Therefore, the importance of shipper co-operation, as exemplified in the advisory board meetings, cannot be overestimated. In the series of meetings last winter, this spirit, built up over the years through the medium of frank and open discussion, was particularly in evidence. In the spring meetings its spirit was still in evidence, although there was mixed with it a certain amount of criticism of the railways for not co-operating universally with vigilance committees and other shipper bodies that were working hard for the betterment of transportation. So far in this fall's meetings this criticism has largely subsided, indicating that railway officers realize the importance of the work that the shippers are doing and are giving it all the support they can.

Every encouragement should be given shippers to continue the fine work that they have been doing in loading cars heavier and releasing them faster. This must not be permitted to take the form of sporadic campaigns, but must be a continuing effort for the duration. Its importance to our military forces was indicated in the recent meetings of the Trans-Missouri-Kansas board, when Major General Gross, commanding the Transportation Corps of the United States Army, took time from his other pressing duties to go to Tulsa, Okla., and tell the shippers how much their

efforts meant to the winning of the war. Railway executive, operating and traffic officers should be no less active in lending their support and encouragement to shippers.

Beneficial Restrictions

Types and styles of electric light bulbs and lamps now being made are to be sharply reduced. Less than half of the various kinds currently produced will be made after November 1, under terms of a simplification order, L-28-a, announced by the War Production Board. Types of lamps will be reduced from 3,500 to 1,700, but there will be no curtailment of total production.

Primarily, those lamps for which suitable substitutes are available will no longer be made. Lamps for which there is no essential demand will be discontinued. Lamps which have been made in a great variety of voltages and wattages will be simplified to include only a fraction of the old schedule.

The purpose of the order is to conserve materials and production capacity in the incandescent and fluorescent lamp industry. It is expected that seven per cent of raw materials, including 650 tons of steel, 35,000 pounds of solder and 8,000 pounds of tungsten will be saved annually. It is estimated that 1,300,000 man hours of direct labor and 325,000 square feet of factory floor space will be released for the production of radio tubes and other war products.

While this sounds like a drastic order, there is practically nothing in it that will cause the railroads any inconvenience. Nominal 115- and 230-volt lamps will be available in 115-, 120-, 125-, 230- and 250-volt ratings only. Smaller steps in voltage ratings do not mean much, since so large a number of lamps now used do not match their socket voltage within five per cent. There will be no 50- or 75-watt lamps in the standard line, but there will remain an adequate choice in the 15-, 25-, 40-, 60- and 100-watt sizes which will be retained.

In the car lighting line, the 75-watt lamp will be discontinued. The demand for this size had decreased in recent years to a small amount. Blue night lamps no longer will be made. The desirability of such lamps for night lighting has long been a subject for argument, and their elimination is desirable at this time, because blue has been found to be more conspicuous than white under dimout conditions. Colors for lamps will be limited to red, green and blue, a restriction which would have been healthy for the industry had it been made ten years ago. Flame-shaped lamps have been ruled out, but these cater to taste rather than utility.

The 32- and 64-volt train lighting lamps will be abolished. Several years ago the electrical associations voted to adopt the 30- and 60-volt lamps in their place, since they permit good lighting while a train is standing as well as while it is in motion. Now no one will any longer need to wonder why this recommendation was not adopted more readily.

What is apparently a hardship enforced by the necessities of war is in fact a benefit. The order will effect desirable simplifications which would normally not be made.

Wages and Farm Prices

There is a good deal of straining at a gnat and swallowing a camel in the current criticism of the farm lobbyists for their insistence on "parity", or a little more than "parity", in government control of agricultural prices.

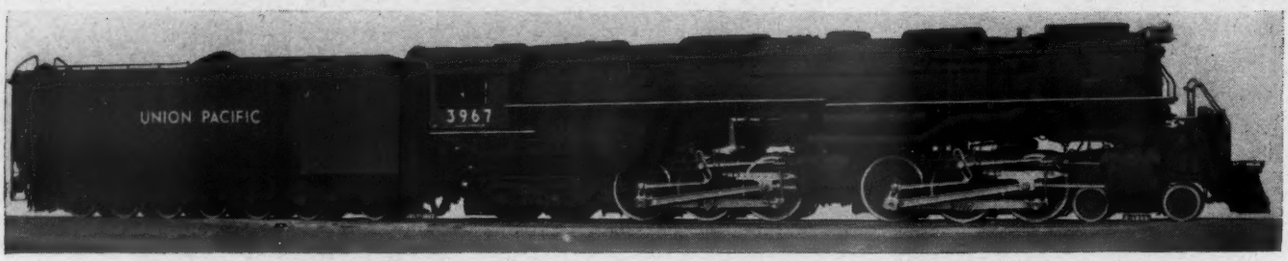
Of course, these farm lobbyists are selfish—trying to improve the relative economic position of farmers when, because of the curtailment of production of goods for civilian consumption, the general standard of living is rapidly and necessarily declining. At a time when, on the average, the American people are going to be much poorer in worldly goods than they have been for thirty or forty years, the farm lobby insists that the living standards of farmers be improved. This means that those persons who do not have a powerful lobby working for them are expected to make *more than average sacrifices,* so that farmers will not have to make any sacrifices at all during the war, but, on the contrary, will enjoy improved living standards.

What the farmers' lobby is asking for, in substance, is that the farmer be guaranteed the relative purchasing power that he enjoyed in the period 1909-1914. The general price level is higher than it was then, and the agricultural lobbyist seeks a proportionate rise in the prices of farm products. No doubt this is all very reprehensible.

But the farmers are not the only objectors to governmental limitation of their prices. Even more insistent than they, in demanding income increases in war time—rather than sacrifices—are the leaders of organized labor. Prices of farm products are currently about 50 per cent higher than in the pre-1914 period. Hourly wages in the manufacturing industry in the same period have risen 262 per cent (from 24.7 cents to 89.5 cents)*. Railroad hourly wages in the same period † have risen from 25.4 cents to 87 cents; and 15 railway labor unions are now demanding minimum increases of 20 cents an hour.

If arbitrary and political increases in farm prices are to be condemned at such a time as this, then what should be said about equally arbitrary and politically-inspired increases in wages at such a time as this, after wages *already* have been increased to a fantastic degree *above* the relatively modest standard which the farm lobby is demanding?

* See page 290, "Economic Almanac for 1942-43," Published by the National Industrial Conference Board.
† Ibid., page 331.



Union Pacific Freight Locomotive Built by the American Locomotive Company

20 More Articulated Locomotives for the Union Pacific

4-6-6-4 type, built by Alco, carry 280 lb. boiler pressure, develop 97,350 lb. tractive force—Tenders carried on 14 wheels

DURING the past summer the Union Pacific has received an order of 20 single-expansion 4-6-6-4 articulated steam locomotives from the American Locomotive Company. The Union Pacific now has a fleet of 60 of these locomotives. The first order of 15 of this wheel arrangement was delivered during the summer of 1936. A second order of 25 was delivered during the next year.

This 4-6-6-4 type, designed by Otto Jabelmann, vice-president of the Union Pacific, in cooperation with the American Locomotive Company to operate in high-speed freight service in mountain territory, has rapidly received country-wide recognition. To date, the American Locomotive Company has built, or has on order, 155 of this type locomotive for six different roads.

The last order of 20 locomotives recently delivered to the Union Pacific were specified to be capable of operating continuously under maximum horsepower output up to 70 m. p. h., to operate on grades of 3 per cent, and to pass curves of 20 deg. They have cylinders 21 in. in diameter by 32-stroke, 69-in. driving wheels, and carry a boiler pressure of 280 lb. per sq. in. which produces a calculated tractive force of 97,350 lb.

The weight on each driving axle was limited to 67,500 lb., making a total weight on drivers of 404,000 lb. The total weight of the locomotive is 627,000 lb., of which 101,000 lb. is carried on the leading truck and 122,000 lb. on the trailing truck. The weight of the tender, fully loaded, is 436,500 lb., making the combined maximum weight of the locomotive and tender 1,063,500 lb.

The Boiler

The boiler was designed and manufactured with the utmost care. The grate and firebox were proportioned to burn soft coal having approximately 11,800 B.t.u. per pound. All boiler plates are of Bethloc steel deoxidized. Horizontal seams have a saw-tooth welt strap inside and a straight welt strap outside with all joints calked inside and outside.

The Elesco Type E superheater of 90 units, 1⅜ in. diameter, has 177 4-in. No. 9 flues and 45 2¼-in. No. 12 flues. The tubes and flues are 20 ft. long and were furnished by the Republic Steel Company.

The firebox has a horizontal mud ring with large radii at the corners. It is 187 1/32 in. long by 108 3/16 in. wide inside, with a combustion chamber 106 in. long. It has a grate area of 132.2 sq. ft. and a heating surface of 500

The Air Compressors and Radiator Are Behind the Shield on the Front Deck of the Locomotive

sq. ft. Five security circulators in the firebox, and with none in the combustion chamber, furnish 81 sq. ft. additional heating surface and support an American brick arch.

The grates are Firebar with 15 per cent air opening and the coal is fed to them by a Standard MB type stoker with engine on the tender. Fire doors are Franklin Butterfly type. The boilers are equipped with the Electro-Chemical automatic blow-down and foam collapsing trough system and have Prime washout plugs and Wilson blow-off cocks. Staybolts are the Flannery KM welded type.

The boiler is fed by one Nathan live-steam injector located on the right side, capable of supplying the boiler under maximum horsepower output, and one Elesco Type TP exhaust-steam injector of equal capacity located on the left side. The smokebox arrangement is the labyrinth type developed by the railroad company. The smoke stack is double and its extension is of the multiple flare type formed to act in cooperation with the four exhaust nozzle jets also developed by the railroad company. A smoke deflector is fitted to the top of the double stack.

A water-circulating nozzle pointed toward the rear and operated by steam from the enginehouse steam line is located in the bottom of the first course near the front. This improves circulation when firing up a cold boiler producing a more even temperature throughout, thus reducing stresses due to expansion.

The Frame Structure

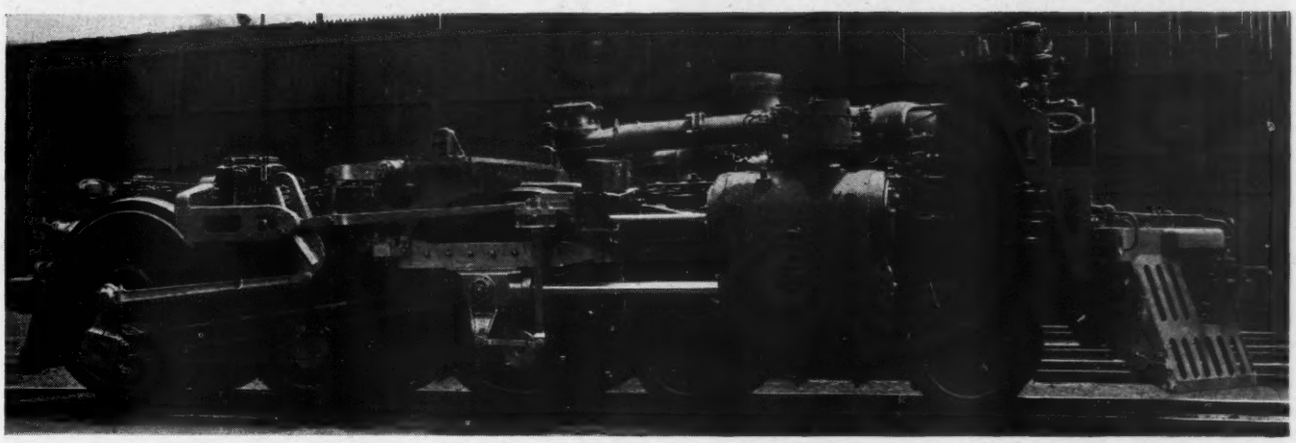
Both the front and back engine units are equipped with General Steel Castings Corporation frame beds with cylinders, including back cylinder heads, cast integrally. The articulation hinge comprises a tongue cast on the rear of the front engine-bed unit, fitting into a cavity in the front of the rear engine-bed unit. Bushings for the articulation pin are made in step sizes so that renewals can be made without disconnecting the front engine, and force-feed lubrication is provided. Part of the weight of the rear engine unit is transmitted to the front engine units because of the fact that it rests on top of the articulation hinge tongue.

By transmitting the weight of the boiler at two points on the front frame structure—namely, the main boiler bearing and the articulation hinge—perfect stability of the front frame structure is afforded. This requires, however, that the spring rigging must be built with maximum flexibility and engine truck equalized with the spring suspension of the front engine units. The pilot is cast integral with the front bumper beam. Its top section consists of a swing-type coupler which, when in closed position, fits the contour of the pilot and removes all obstructions. This design was also used on the 4-8-4 type locomotives built for this railroad.

The Running Gear

The driving wheels are of the Alco Boxpok type. The main wheels are the rear pair on each unit and are the only pairs which are cross-counter-balanced. The reciprocating weights on each side of the locomotive amount to 1,656 lb. on the front engine and 1,517 lb. on the rear engine. Twenty-five per cent of these weights are balancing, giving a reciprocating overbalance of 138 lb. in each driving wheel on the front engine and 126 lb. on each driving wheel in the rear engine. The main driving wheels are cross balanced.

These locomotives have incorporated in their design the "lever principle" developed by the builders which comprises correctly established engine-truck and trailing-truck lateral resistance together with lateral-motion devices on the first and second pairs of drivers of each group which permit the units when curving to pivot on the back pair of drivers and so to enter and pass through curves with a lever action. The use of this principle, together with ample flexibility in the spring rigging, greatly reduces all wheel binding, and by reducing lateral stresses greatly prolongs the life both of the locomotive structure and the track.



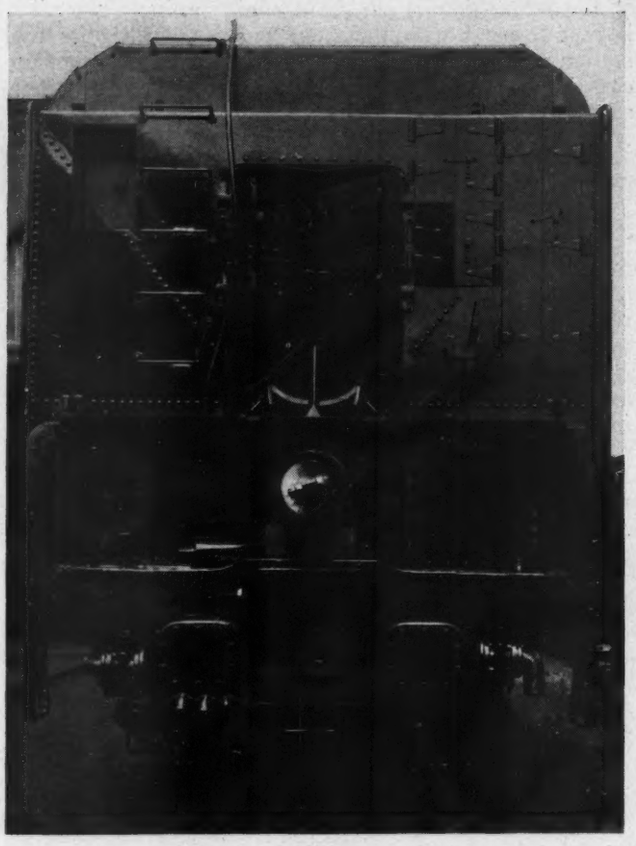
A Front Engine Unit Ready for Connection to the Locomotive

The main driving axles are of low-carbon nickel steel, while the others are straight carbon steel, all hollow bored, and equipped with Timken roller bearings.

The Alco engine trucks incorporate a geared roller centering device and have SKF non-self-aligning roller bearings. The center plate is sealed against the entrance of dirt and is force-feed lubricated. Force-feed lubrication is also applied to the teeth of the geared rollers. The trailer truck is of the General Steel Castings Corporation four-wheel radial type. Both wheel and axle units are of the same size and are equipped with SKF roller bearings.

Frame pedestal shoes are of hard bronze, while the wedges are of forged steel with a bronze lining on the pedestal face. Franklin automatic compensators and snubbers are applied to all wedges.

The pistons are the Locomotive Finished Material Company's light - weight, rolled - alloy - steel three - ring design. Cylinder and piston-valve bushings are of Hunt-



The Front End of the Tender Showing the Stoker Conveyor Screw and Engine and Tender Pipe Connections

Spiller gun-iron especially hardened. Paxton-Mitchell rod packing is used.

Crossheads and guides are of the multiple-bearing type. Instead of rigid bolted fastenings at their ends, the guides are clamped in position by means of the Alco Slidguide device which permits of sufficient longitudinal flexibility to prevent distortion. Main and side rods are of low-carbon nickel-steel with channeled eyes. Side rods are of articulated design without knuckle pins. All crank pins, except the front, are provided with Prime Alemite hard-grease fittings for internal lubrication. Main- and side-rod bushings are of Magnus bronze.

Walschaert valve gear is used with trunnion design of links and special lightweight design of eccentric cranks attached to the main pins with two bolts each. McGill needle bearings are applied throughout the valve gears except at the rear ends of the eccentric rods which take an SKF self-aligning roller bearing. An Alco type H reverse gear with 12-in. diameter cylinder and 24 in. stroke is connected to the reverse shaft arm of the rear engine unit. The piston valves are 12 in. in diameter, of lightweight design, and are fitted with Hunt-Spiller Duplex bronze and cast-iron lip-type packing rings.

Great care was used in proportioning the areas of all steam and exhaust passages. The system of steam pipes employed has been developed by the builders for articulated locomotives with the idea of providing for all necessary movements, but requiring a minimum of maintenance. Steam pipes to the front cylinders are of the jack-knife design hinged on semi-ball joints, all alike and exerting no spreading pressure. Metallic packing is used everywhere except in the slip joints in the rear cylinder steam pipes. These slip joints are ported so as to be perfectly balanced against the effect of internal pressure. The exhaust pipes from the rear cylinders extend forward and join under the base of the rear exhaust stand, while the single exhaust pipe from the front cylinders has the usual ball joints front and rear with a ring-packed slip joint. Steam enters the dry pipe through an Elesco Tangential dryer.

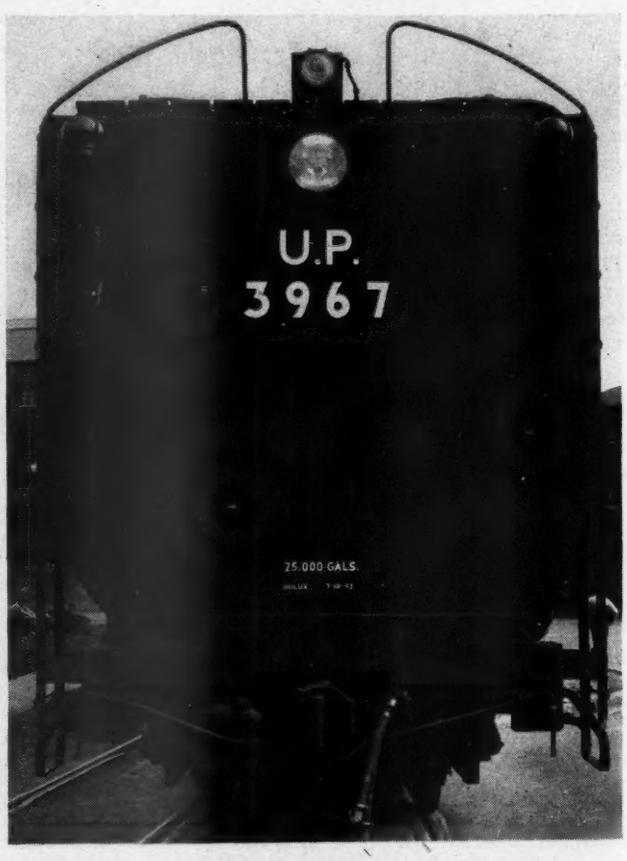
The Spring Rigging

The engine truck employs parallel spring suspension wherein one-third of the load is carried on semi-elliptic springs and the remaining two-thirds on coil springs. A shallower and, therefore, more flexible semi-elliptic spring is thus obtained and serves as a damping spring, while the initial shocks are absorbed by the coils. This parallel type of spring suspension greatly improves riding qualities.

The driving springs are all seated on rollers. Cushioning coil springs are located at the dead ends of the equalization system on both engine units, at the bottom end of the rear trailer-truck spring hanger and between the engine-truck equalizer and the front cross equalizer. Wherever possible, loop type spring hangers are used. Load-carrying spring-rigging pins are reduced to a minimum, but where they would commonly be employed at the joints between equalizers and spring hangers blocks of Gatke Grafitex are inserted. This same material is used for the few pin bushings employed.

Lubrication

Each locomotive is equipped with four Nathan mechanical force-feed lubricators of 30 pints' capacity. Two of these are used for the lubrication of the guides, driving-box shoe and wedge faces, trailing-truck pedestals, articulation hinge pin, engine-truck center castings, trailer-truck center plate, radial buffer, power-reverse gear and intermediate reach-rod crosshead. The other two lubri-

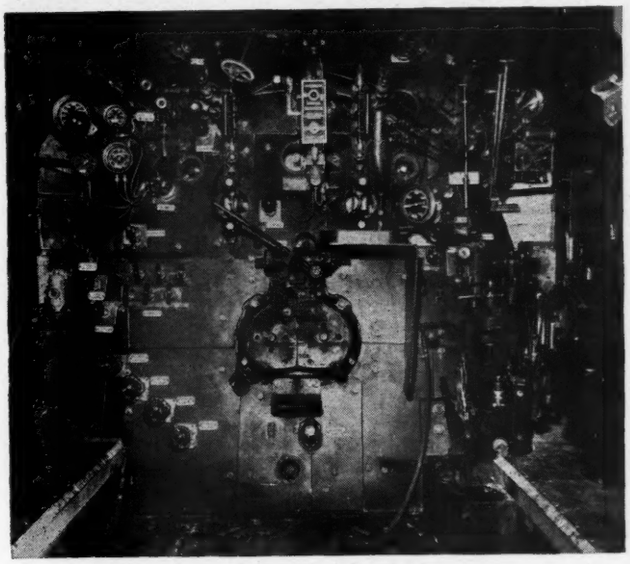


Rear End of the Tender

cators are used to lubricate the cylinders, valves, steam-pipe joints, throttle, stoker, piston-rod glands, boiler bearing, and front exhaust-pipe slip joint. Lubrication through Alemite soft-grease fittings is provided for valve motion, brake rigging and throttle rigging. Crank pins are lubricated through Alemite hard-grease fittings.

Brakes

Brake-operating equipment is New York Schedule 8-ET with KM vent valves on both the locomotive and tender. Two 8½-in. cross-compound air compressors are mounted on the frame at the front end and are operated by superheated steam. Fin-type radiators are used in the cooling system. Neither the engine truck nor the trailer truck is fitted with brakes, but the engine truck is designed for their possible future application.



The Cab Interior

The Cab

The cab is supported entirely from the boiler by a construction perfected by the builder in which the cab travels with the expansion of the boiler and has no connection with the frame. The railroad company's design of rear closure, consisting of four folding doors, is used.

Tender

The tenders have a water capacity of 25,000 gallons and a coal capacity of 28 tons. They are built on General Steel Castings Corporation water-bottom beds, carried at the front on a four-wheel center-bearing truck back of which are five pairs of wheels mounted in pedestals cast integral with the tender bed. All wheels are 42 in. in Diameter and have Timken roller bearings in outside journal boxes. The four-wheel truck is equalized and the boxes in the frame pedestals are equalized together on each side to form a three-point load suspension. Over each frame pedestal box is a single semi-elliptic spring and two coil springs. The front and back ends of each equalizing system are anchored to the bed casting through tandem coil springs. On top of each frame pedestal box and under the semi-elliptic spring is fitted a General Steel Castings Corporation centering device made up of rubber blocks sandwiched between steel plates. The upper ends of these devices are guided to prevent lateral movement, but their lower ends can move laterally with the boxes against the shear resistance of the rubber. Lateral movement of the rear boxes is restricted to less than that on the other boxes.

Between the engine and tender there is a Franklin E-2 radial buffer. Flexible joints between engine and tender for the stoker are Barco, while those for the steam-heat line are Franklin. Brake conduits are U. S. Rubber armored hose. Tank valves are 4-in. gate type and suction hose is Hewitt Rubber, 4½ in. in. diameter. At the rear end is a Miner type A 94XB draft gear and a National Type E coupler, 6½-in. by 8-in. swivel butt, double-rotary, bottom operated. The tender frames are arranged for the future application of buffer mechanism at the rear end.

General Dimensions and Weights of the Union Pacific 4-6-6-4 Type Freight Locomotives

Railroad	Union Pacific
Builder	American Loco. Co.
Road numbers	3950-69
Date built	1942
Service	Freight
Rated tractive force, engine, 81 per cent, lb.	97,350
Weights in working order, lb.:	
On drivers	404,000
On front truck	101,000
On trailing truck	122,000
Total engine	627,000
Tender (two-thirds loaded)	348,500
Wheel bases, ft.-in.:	
Driving	12-2
Engine total	60-4½
Engine and tender total	106-8
Driving wheels, diameter outside tires, in.	69
Cylinders, number, diameter and stroke, in.	2-21x32
Valves, piston type, size, in.	12
Maximum travel, in.	7
Boiler:	
Steam pressure, lb.	280
Diameter, first ring, inside, in.	94 11/16
Firebox length, in.	187 1/32
Firebox width, in.	108 3/16
Combustion chamber length, in.	106
Circulators, number	5
Tubes, number and diameter, in.	45-2¾
Flues, number and diameter, in.	177-4
Length over tube sheets, ft.-in.	20-0
Grate area, sq. ft.	132.2
Heating surfaces, sq. ft.:	
Firebox and comb. chamber	500
Circulators	81
Firebox, total	581
Tubes and flues	4,214
Evaporative, total	4,795
Superheater	2,162
Comb. evap. and superheater	6,957
Tender:	
Style	Water bottom
Water capacity, gal.	25,000
Fuel capacity, tons	28
Trucks	1—4-wheel—5 axles in pedestal

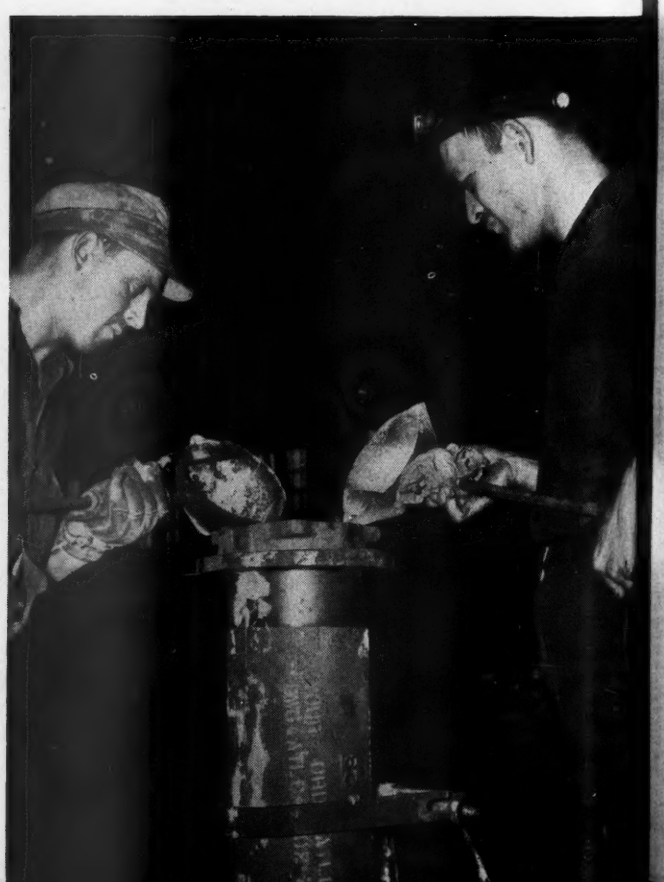
* * *

Express Trucks Get War Paint

Less conspicuous olive drab replaces for the duration the aluminum paint formerly used on the tops of many Railway Express Agency trucks.

Railroads Not Only Haul War Materials—They Produce Them

Central Vermont Shop Employees Are Shown at Various Jobs Involved in the Manufacture of Stern Tube Bearings for U. S. Naval Vessels—Photos Courtesy Canadian National Rys.



Reorganizations—Do They Restore Credit or Destroy It?

Obsolescence cannot be established by pessimistic predictions, especially when continued efficiency rise refutes it—Unwise to let popular psychology of the time color view of the future

By Fairman R. Dick

This is the concluding part of a two-part article by one of the country's best-known authorities on railway finance—a man who always keeps in mind the necessity for the preservation of railway credit, not primarily because such a policy serves the self-interest of security-owners, but because credit maintenance is essential to the continuance of efficient railroad service to the nation, under the American system of free enterprise.

The author sees clearly that the present status of railroad credit, a lingering illness of a decade and more duration, cannot indefinitely provide the quality and quantity of railroad service which present war experience shows the country cannot do without. Either credit will be restored, or one of two alternatives are inevitable: (1) deterioration of railroad service, (2) socialization of the carriers, so that reluctant taxpayers rather than free investors will provide for their financial needs. The first alternative is unthinkable, if the nation's economic and military safety is to be preserved. The second is equally unthinkable, if our political freedom—which we are fighting to defend—is not to be seriously jeopardized.

In the first part of this article, in last week's *Railway Age*, Mr. Dick analyzed the errors in I. C. C. reorganization theories which are keeping investors shy of the railroads, despite greatly increased traffic and earnings—and despite a daily demonstration of public dependence upon railroad plant and railroad service.

In this concluding installment the author completes his presentation, sugesting the policies and principles which, if followed, will allow railroad credit to reflect the reliance which the public is evidencing in railroad plant and service—a reflection which should go far to permit carrier needs for capital to be amply met in future with uncoerced private investment funds.—*Editor.*

IT is true that increases in wages and taxes and reductions in rates have disguised improvements in efficiency, but studies of output per employee are unaffected by price changes. This fact and many like it are compiled and reported by the Commission and are readily available. Undoubtedly, part of the improved efficiency that has taken place is due to the increased specialization in heavy freight traffic brought about by the loss of the package business and passenger business to the highways. This improvement may be considered as the "asset" side of the loss of this business, and this important asset seems to have been completely ignored in all forecasts of "value" now before the Commission and the courts.

As a result of ignoring the pace of improvement in efficiency, forecasts have become obsolete almost as soon as they are made. In 1937, for instance, the earning power of the Chicago & North Western was estimated, based on what was called a "normal" volume of traffic. Although, in 1941, volume was still slightly below this "normal," the 1937 I. C. C. forecast was disclosed to be over 100 per cent in error. This forecast was carefully made and it may have been reasonably correct based on what might be called the "co-efficient of efficiency" of 1937. But by 1941 the improvement in efficiency had more than doubled the earning power of the road.

Accurate Long-Range Forecasts Impossible

A detailed study of the problem of forecasting earnings emphasizes insurmountable difficulties. A brief enumeration of the factors involved makes this clear. All the elements in railroad earning power are continually changing—volume of business, level of rates, wage scales and working conditions of labor, taxes, cost of materials and supplies (that is, the price level) and, most important of all, the factor of efficiency—units of labor and units of material required to transport a given volume of traffic. No human being can possibly forecast the future course of all these variables.

A most unfortunate aspect of the use of forecasts as a basis for determining the capitalizable value of a railroad is, not only that they injure credit by their pessimism, but that they are wholly unnecessary. The injury to railroad credit resulting from this barrage of pessimistic prophecies can accomplish no useful purpose. Estimates of what a "normal value" for a railroad may be expected to be are, perhaps, interesting as forecasting the stock market, but they have no place in reorganization. This does not mean that no forecast of earnings is needed in reorganization. Forecasts of minimum earnings are necessary in order to determine a maximum limit of fixed charges. A contract to pay fixed interest necessitates the determination of a safe fixed charge, but to go beyond this and to forecast "normal" earnings or maximum earnings serves no useful purpose, nor is there any useful purpose in attempting from these forecasts to determine a maximum value for capitalization purposes.

Asset Value vs. Exchange Value

Assets are used and useful tangible property, which have cost money to provide and would cost money to reproduce. Capitalization is a reflection of this tangible property and, obviously, the more accurately it reflects the actuality it represents, the more honest and forthright it is. This seems almost a truism; and, indeed,

it is so recognized when an attempt is made to have capitalization reflect a sum in excess of asset value.

The burden of proof should be upon those who would have capitalization reflect something other than the actuality of assets to which it has given rise; and who, instead, would relate it to forecasts of what these assets may be expected to return in the way of income to the investor. Value of assets as a producer of income is sometimes described as "exchange value." "Asset value" and "exchange value," that is value to the investor, are rarely identical. Where they are identical it is for only very brief periods. During depressions when investors are pessimistic "exchange value," that is, value to the investor as a producer of income, is generally below and often far below "asset value." During periods of prosperity and optimism "exchange value" is normally above "asset value." The clearest example of the two different meanings of the word "value" can be seen by an examination of the assets of banks and the stock representing the ownership of these assets. The assets of a bank are dollars and receivables or marketable securities. "Asset value" therefore is readily determined in dollars. The "exchange value" is the price an investor will pay for these assets as a producer of income. It can be measured by the price of the bank's stock.

Suppose Banks Capitalized "Exchange Value"

Today the "exchange value" of a bank under depression psychology is in most cases materially below its "asset value." For a group of New York banks today the "exchange value" of a dollar of capital is in the neighborhood of 75 cents.

In the prosperity and optimism of 1929 the reverse was true. A dollar of bank capital had an exchange value far greater than a dollar. For New York banks there was a period during 1929 when the "exchange value" of a dollar was $7, and in one of the largest New York banks in 1929 a dollar of assets had an exchange value of $13.

It is lucky for the country that our banks have not been affected by the confusion between "asset value" and "exchange value." If today the "exchange value" of bank assets were regarded as controlling in the determination of their capital, we would be facing serious banking difficulties. Similarly, if in 1929 our banks had regarded "exchange value" as a sound basis of capitalization, they would have been justified in issuing new stock in astronomical amounts and reporting to their depositors factors of safety so large as to have justified the taking on of huge speculative commitments without danger to depositors.

The same variation between "asset value" and "exchange value" applies to all corporate business. For most industrials, the "exchange value" of 1929 was far above the "asset value" and today it is far below. Even in public utilities the "exchange values" of 1929 were far above "asset values" in spite of regulation; not a few utilities confused "asset value" and "exchange value" and not only printed new stock certificates by the millions but even made write-ups of assets on their books.

It is interesting to note that during these years the railroads were distinguished by their freedom from such excesses. Railroad regulation was so stringent that "exchange value" seldom got far out of line with "asset value," and outpourings of additional railroad stock certificates on the basis that such issues were justified by the increased "exchange values" were conspicuous by their absence.

There is an important public aspect to this confusion of "asset value" and "exchange value." The write-up of assets on the books of a company and multiplication of stock certificates were obviously intended to deceive the investing public and the regulatory authorities. If a company was earning 10 per cent on the cost of its assets, it would appear to be earning only 5 per cent if the asset values were doubled. In the same way, by doubling the number of shares the earnings per share would be halved.

Misleading the Public

The facts as to actual earnings on actual assets would not be changed by this process, they would only appear to be changed. A primary purpose of these write-ups and stock split-ups was to make the earnings seem less than they were. Especially in utilities, public knowledge of how large earnings really were was a danger. Write-ups that disguised these earnings tended to lessen this danger. During the 1930's the Federal Power Commission and the SEC canceled out much of these distortions of bookkeeping and capitalization.

In the records of the Commission in many of our present-day railroad reorganizations, we see this write-up and split-up process operating in reverse. Where the earnings are low and forecasts pessimistic, the capitalizable assets and capitalization are to be reduced so as to make these earnings seem better. This juggling does not, of course, make them any better but they appear to be better. If a railroad's capitalizable assets are reduced by one-half, earnings of 3 per cent appear to be 6 per cent. If such a method of exaggerating earnings is sound, why would it not be even more sound to cut the assets of such a railroad down 75 per cent and make earnings of 3 per cent look like earnings of 12 per cent?

In the decision on the Western Pacific, the Commission makes the astounding statement that to issue a share of stock representing $100 of assets would create "mere tokens for stock-market speculation," so the Commission proposes to change these shares from speculations to investments by changing the asset value of a share from $100 to approximately $200. One share of the "improved" stock recommended by the Commission will then be the same as two shares of the unimproved speculative stock. It is difficult to discuss this theory seriously.

If an investor buys one share of stock representing $100 of assets he is deemed to be speculating. If he buys two shares of the same stock he is investing—that is, of course, if he pins these two shares together and calls them "one share."

For many years investors have been accustomed to regard a soundly capitalized company as one where a share of stock represents $100 of assets. Issuing stock that represents $200 of assets or even $300 of assets as in the North Western reorganization doesn't actually make this stock any safer; it just seems to be safer. The error of the Commission in analyzing the actual effect of this proposal makes it clear that many investors will be similarly misled.

Invitation to Water Capitalization

This probability that the public will be misled is increased by the methods used to describe the proposed new capitalization. Stock is issued with no par value that may represent assets of $200 or even $300 a share, and then this stock is described in terms of $100 per share for the purpose of determining the maximum capitalization. Describing stock in terms of $100 a share that represent assets of $200 or $300 a share conceals from the investor the low earnings of his property.

Another serious result of such methods of capitalization is that they encourage future issues of stock at prices that seriously water the stock in terms of assets. Prohibitions against selling stock below a par value of say $100 a share were intended to prevent new issues that would reduce the asset value of the stock below $100 per share. Admittedly, fixed limitations of sales of new capital stock below par value may be too restrictive. Some flexibility should be provided, but increasing the asset value to $200 or $300 a share and then providing for new issues unlimited in amount at prices far below asset value, in fact even far below $100 a share, is clearly reckless. And yet such methods of finance are provided in the Chicago & North Western decision of the Commission. At certain times it may be advisable and necessary to issue new stock at prices that dilute the shares in terms of assets but this unfortunate necessity should not be hidden or disguised in any way. Issuing stock where one share represents $200 or $300 in assets does tend not only to disguise but also to invite such reckless methods of finance. No conservative investor who clearly foresaw the dilution of assets contemplated in the future would intentionally buy such a stock.

It is clear, therefore, that scaling down capitalizable assets and total capitalization does not create strong capital structures. Inadequate earning power cannot be increased, but merely disguised, by such methods. To invite investment on the part of the public by a showing that earning power has been increased when in fact it hasn't, may be likened to obtaining money under false pretenses.

The creation of such a fabric of deceit would seem to be bad enough in itself, even without giving weight to the fact that to accomplish this purpose many present stockholders and bondholders would be squeezed out of the picture in whole or in part.

No Way to Attract Investors

This brings us to the main purpose of reorganization and that is to invite and induce new capital contributions by the public. Wiping out railroad stockholders and bondholders does not tend to persuade them to invest again in the railroad industry. If, due to priorities, no assets are available for certain junior securities or stockholders there would seem to be no place for them in a reorganization. It is unfortunate for them and for the effect on their future investment policy, but if no assets are left over after providing for priorities that is just too bad. But to pretend that there are no assets available to protect these security holders when in fact there are, is to add insult to injury.

If railroad credit is to be restored, ability to finance by stock must be re-established; otherwise debts reduced by reorganization will be reconstructed by new issues until another scaling down is necessary. Therefore the present treatment of stockholders is of the utmost importance. The treatment of stock representing no assets, merely water, is of no consequence, but where stock represents honest investment in assets used and useful today in the public service, every reasonable effort should be made to protect it.

In this connection, the problem of priorities and accrued unpaid interest is troublesome, for the importance of protecting stockholders applies equally or in even greater degree to bondholders. Luckily, conservative bondholders as a class are not looking for any increment above par on their investment. Because of prolonged defaults they could equitably claim not only their money back but substantial damages as well. But they do not want damages—they merely want their money back, preferably with interest. As they are not seeking a windfall, the protection of stockholders is not as difficult as it might at first appear.

In this connection, the Erie reorganization may profitably be studied. One of the last roads to go into bankruptcy, it is one of the first to come out. The stockholders were permitted to remain in the picture by means of a provision for an "equity of redemption." It is also significant that in the Erie the capitalizable assets and the new capitalization are not reduced by gloomy forecasts of earnings. However, while a study of the Erie reorganization is instructive, the principles are more difficult of application in the bankruptcy center of the United States, the Western Trunk Line territory. In Eastern Trunk Line territory, where the Erie operates, earnings were not held down by regulation to anywhere near the level of earnings in Western Trunk Line territory. During the late 1920's when the Western Trunk Lines were earning only 3 per cent, the Erie was earning over 5 per cent. As a result, the depression earnings were likewise more favorable. To apply in Western Trunk Line territory the principles that have been proven successful in the case of the Erie is, therefore, not so easy as it might appear at first glance.

Worthless Property Should Be Written Off

There is a stock argument, which calls for comment, against accepting assets at cost as a basis of capitalization; that is the argument that worthless assets should not be capitalized. Among such assets of our railroads are mentioned worthless branch lines, old empty buildings and obsolete equipment. It is true that such worthless assets should not be capitalized. They should be retired and written out of the asset account. As a practical matter, however, so far as most railroads are concerned, this problem of worthless assets is no problem at all.

Obsolete property is continually being retired and replaced, and never was there such a house-cleaning in this respect as in the last 20 years when gross additions and betterments were nearly eleven billion dollars and retirements were over five billion dollars. As far as branch lines go, these light density lines have practically no traffic, produce no earnings and represent only a microscopic proportion of assets. The railroads have been throwing these lines away as fast as they are permitted and the effect on balance sheet assets is so slight as to avoid notice. Today the War Production Board is actively urging all possible retirements and abandonments, and the railroads are actively cooperating. The present need for scrap is insurance that before the war is over no railroad property that lacks definite and clear value will remain on the asset side of the balance sheet. The railroads are as keen to get rid of these worthless properties as the government is to acquire them as valuable scrap.

No Evidence Offered of Obsolescence

While the record in reorganization cases and the voluminous reports and orders of the Commission argue that large amounts of railroad property are obsolete and valueless, there is not a scintilla of evidence offered as proof of this general statement. If large amounts of property are obsolete and without value, this property should be enumerated in engineering reports. The property that could be retired and scrapped should not only be listed but actually charged off and replaced. If listed for retirement and replacement, this should be noted; and if listed for complete retirement, it should be re-

tired without delay and written out of the asset side of the balance sheet at the earliest possible date, preferably prior to reorganization. The record in these cases, instead of containing detailed studies of these "worthless and obsolete assets" such as would permit a determination of the actual values which they represent on the asset side of the balance sheet, contains, instead, general assumptions as to obsolescence and worthlessness based on gloomy forecasts of future earnings of a road as a whole, and completely unrelated to the actual physical assets themselves.

How to Determine Obsolescence

To measure obsolescence by such methods is ridiculous. Take, for example, locomotives. To determine locomotive obsolescence it is necessary to have a qualified man examine the individual locomotive. The decisions in reorganization cases, on the contrary, assume that an examination by an expert is unnecessary. A satisfactory determination of railroad obsolescence is obtained by making a forecast as to what the road as a whole may be expected to earn some time in the future.

Although guesses as to the future earnings of a road have no bearing on present obsolescence, there is a method of estimating obsolescence as a whole by a study of a road as a whole. Such a study will not consist of a forecast of future net earnings, but will explore the trend of efficiency of operation over an extended period. Obsolescence may be defined as a failure to improve. A locomotive twenty years old may be as good as the day it was made, but, nevertheless, it may become obsolete because a modern locomotive is better designed and more efficient.

The overall efficiency curve of an industry or a company, therefore, may register increasing or decreasing obsolescence. If the curve of efficiency is rising faster than ever before and faster than in the case of other companies or industries, then obsolescence is being held down to a minimum. If, however, the curve is flat and shows little or no improvement, then accumulating obsolescence is indicated. In other words, increasing obsolescence is indicated by a decreased rate of improvement in efficiency.

If the record in these cases showed an obsolescence study of this nature, a study that depicted the railroad industry as falling behind in the rate of improvement in efficiency, it would furnish strong support for the belief that extensive obsolescence had accumulated in railroad property, but the record shows not a single trace of such an efficiency study; and, if it did, it would not prove increasing obsolescence but, on the contrary, decreasing obsolescence. Never in railroad history has the pace of improvement in efficiency of operation been as fast as in the last ten years.

Unfortunately, the record in these cases reveals but little real evidence on the subject of obsolescence. Railroad efficiency, apparently, has been assumed to have been static and to have been expected to remain so.

As we have pointed out before, there are difficulties in measuring changes in efficiency under varying volumes of traffic. In 1941, however, the total traffic volume was approximately the same as in 1929, so it is fair to make a direct comparison of operating expenses. We find that the operating expenses of 1941 were $3,700 million as compared with $4,500 million in 1929, in spite of a wage scale involving an additional cost of approximately $350 million. On the basis of the wage costs of 1929 the operating expenses of 1941 would have been $3,300 million, a reduction of $1,200 million.

Class I Railroads in 1929 had operating earnings of $1,200 million. If they had been able to operate at that time with the efficiency they showed in 1941, they would have earned $2,400 million.

How can such an achievement be reconciled with the theory of increasing obsolescence?

This brief examination of the decisions of the Commission in connection with the determination of a maximum limit of capitalization would seem to make it clear, not only that much of the evidence is misinterpreted, but that the record is completely lacking in much evidence that should have been considered.

There are many other matters in which the record is lacking. For instance, in the plans approved by the Commission a large amount of bonds are changed into stock. Admittedly fixed charges must be reduced, but it is not necessary to bring about this reduction by changing fixed interest bonds into stock to the extent that the plans prescribe. The record is lacking in connection with the determination of the new capitalization that should be represented by stock as compared with fixed interest bonds and income bonds. The determination of a proper balance between stock and bonds is vital in connection with new financing and with the level of rates necessary to maintain a healthy financial condition. To the extent that debt is reduced and replaced by stock, taxation is increased, and the higher the taxation is, the higher must be the level of rates if financial health is to be maintained.

The Commission and the government are continually emphasizing the importance of maintaining rates at the lowest possible level consistent with sound credit, and yet the Commission is proposing to create new capital structures that require a higher level of rates than would be necessary if their decision was revised so as to create larger issues of income bonds and smaller issues of stock.

Popular Psychology Unduly Influential

Moreover, from a credit angle, many institutions, such as banks, can buy bonds, even income bonds, where they cannot buy stock. The form of the capital structure therefore is important. Whatever form is established as sound should, of course, be maintained. It would be unthinkable to regard the scaling down of debt merely as a method of piling debt up again by new issues of bonds.

As to this important phase of railroad finance, just as important from the public standpoint as the private standpoint, the record is woefully lacking.

This general picture of the reorganization situation reveals a mass of hazy thinking; a confusion of ideas that is understandable only when viewed as a phase of abnormal depression psychology. Such abnormality of thought and logic is really not abnormal when viewed in the light of circumstances. The "new era" theories of 1929 were similarly normal aspects of an abnormal period. Time is the cure for such afflictions, and the current demand for maximum rail service and the incapacity of the new forms of competition to supply mass transportation are clearing away the fog of pessimism faster than any words could. In the same way that time corrected the "new era" ideas of the 1920's it will correct the depression psychology of the 1930's.

Today the "skull and crossbones" of permanent financial disaster is flaunting over the railroad industry. No wonder reorganizations fail to restore credit. We should haul down the Jolly Roger and re-study the problem in the light of the vital need of the country for our railroads. As long as the Jolly Roger flies, reorganizations are purposeless. Nothing can be lost by re-studying our pessimism.

The "Keepers of the Track" Have Largely Increased Responsibilities in These Days.

Roadmasters Face War Problems at Annual Meeting

Call for economy in cars handling company material—Quality work urged in laying rail and tamping ballast—Machines need care

Part II

PART I of the report of the activities of the "war meeting" of the Roadmasters' and Maintenance of Way Association, held in Chicago on September 15-17, appeared in the *Railway Age* of September 26, this part including an abstract of the challenging address by C. E. Johnston, chairman, Western Association of Railway Executives, and associate director, Western region, Office of Defense Transportation, Chicago, at the opening session, and of two committee reports. The September 26 issue also included, separately, the address made before the meeting by W. W. Kelly, director, Section of Materials and Equipment, Office of Defense Transportation, Washington, D. C., on The Outlook for Track Materials.

Other features of the meeting included addresses by W. C. Kendall, chairman, Car Service division, Association of American Railroads, Washington, D. C., on The Use of Cars and Locomotives by Maintenance of Way Forces in These Days of Maximum Traffic Demands; F. R. Layng, chief engineer, Bessemer & Lake Erie, Greenville, Pa., on Our Responsibilities as Track Men in a Time of "All-Out" War; C. M. Chumley, engineer maintenance of way, Illinois Central, Chicago, on Scrap—What One Road Found; and four additional committee reports, abstracts of all of which are presented on this and following pages. Included also in this issue, separately, is a report on the address before the meeting by B. C. Bertram, director of railway salvage, War Production Board, Washington, D. C., who spoke on Track Scrap—Its Importance in Our National Program. Also featured at the meeting were addresses by Otto S. Beyer, director, Division of Transport Personnel, Office of Defense Transportation, Washington, D. C., who spoke on Our Track Labor Problem, and Brig. Gen. Carl R. Gray, Jr., general manager, Military Railway Service, St. Paul, Minn., who described the organization, functions and present activities of this newest branch of the armed service. Abstracts of the addresses by Messrs. Beyer and Gray will appear in subsequent issues.

Must Get the Most From Cars and Locomotives

By W. C. Kendall*

We on the railroads have a common problem before us, and you in the maintenance of way department are in a position to be most helpful in solving many of the difficulties arising in the use and handling of freight cars in this somewhat critical period. The railroads are now faced with a rising tide of traffic, and without the increase in cars and locomotives which, a year ago, they had anticipated would be available. As a result, they must do even more to increase their efficiency in order to take up the slack with what they have. There must, inevitably, be still greater efficiency in the use of cars now owned if the job ahead is to be done. And it must be done.

Shippers and receivers are being importuned to load and un-

* Chairman, Car Service division, Association of American Railroads, Washington, D. C.

load cars more promptly, and to give each car a full load. Railroad men have an even greater responsibility, for they should set an example for others in getting the most out of each unit of transportation.

Ton-miles are now a more accurate unit of measure of rail transportation than carloadings. During the first eight months of 1942, the railroads handled 31 per cent more ton-miles than during the corresponding period of 1941. The previous period of peak traffic load was in 1929, and yet the ton-miles so far in 1942 are 43 per cent ahead of those of that year. They are 67 per cent greater than they were during the corresponding period of the earlier war year of 1918.

Many changes have taken place in the channels of freight movement in the present war year, 1942, which make it different than any previous year in railroad history.

Our country is fighting a two-ocean war—indeed, one which stretches across seven oceans. In addition, with the loss of coastwise and intercoastal shipping facilities, the railroads must now provide a greater amount of trans-continental service than ever before.

Mention should also be made of the increasing volume of transportation required by the military in the movement of personnel and impedimenta. Today, the Car Service division is frequently called upon to assemble from 1,000 to 1,500 open-top cars for immediate service to move military divisions half way across the country. It is these movements, superimposed upon those of construction materials necessary to various government projects, which have strained the open-top car supply, making it appear that a shortage of this type of equipment may be "just around the corner." To avert such a situation, it will be necessary that all of us exert our utmost to eliminate all waste of car-days and to avoid the use of this type of equipment for all except commodities that can be handled only in such cars.

I have referred in particular to the seriousness of the gondola situation because this situation is accentuated by the comparatively low ownership of this class of equipment by those roads serving the Western, Southwestern and Southern areas of the country, areas where so many government projects, such as air bases, are under construction. The loading of sand, gravel and other construction materials in these areas is proceeding at a pace never before contemplated. It is inevitable, therefore, that the roads serving these areas must use cars of other ownership to make up for their own deficiencies, especially since they have had neither time nor the opportunity to obtain new cars from the builders.

The number of open-tops in service on Western roads increased about 20,000 during the first eight months of this year. This increase has been at the expense of the owners of the equipment, on whose roads it is now badly needed to provide for current shipments of steel products and those other materials for which this type of car was initially provided.

The Car Service division is now carrying on a campaign on all of the railroads of the country, bringing such instances of car delays to the attention of the various managements to the end that corrective action will be taken. You men in the maintenance of way department will contribute largely to the war effort if you will so supervise the handling of company materials on your respective roads as to avoid car delays of the character to which I have referred.

Extend the Life of Rail and Fastenings

Stating that it is now the urgent patriotic duty of maintenance men to conserve rails and fastenings in order that our country's war effort may be intensified and that the railroads be maintained in a proper condition to handle the war traffic expeditiously, the committee reporting on this subject, of which J. B. Martin, general inspector of track, New York Central, Lines West of Buffalo, was chairman, presented a comprehensive review of all of the factors involved and put the responsibility for obtaining results directly up to association members and other railway officers of corresponding rank. "Since rail and fastenings constitute a large tonnage of steel," it said, "it is imperative that we concentrate on their most effective use in order to determine how we can best secure the longest life from them. We are directly responsible for the proper maintenance of the tracks," it continued, "and through our daily contacts with conditions are fitted to determine and apply the solution for this problem."

The primary consideration of the track forces when laying rail, it pointed out, should be quality work, combined with the lowest cost possible through the use of carefully organized forces and the utilization of suitable tools and power equipment. If the rail is not laid correctly and then properly conditioned, it said, no amount of subsequent attention and labor will maintain it satisfactorily and insure its maximum service life. In this connection, the committee cautioned especially against over-emphasis on speed in laying rail at the expense of quality work, and recommended that rail be laid as early in the season as possible so that all of the refinements necessary for its protection and long service life can be taken care of before the winter season sets in.

Among the many other factors stressed by the committee as essential to the prolonged service life of rail and fastenings were the proper fit of angle bars; the lubrication of the bars and rail ends to afford protection against corrosion and frozen joints; uniform bolt tension; correct expansion gaps between the rail ends; the application of an adequate number of rail anti-creepers; a sound tie condition; adequate clean ballast; and the maintenance of a good track surface. It cautioned particularly that rail cannot be maintained in good surface and condition without a good foundation, and emphasized that in connection with new rail programs, all heavy work on the track, including bank widening, ballast cleaning, reballasting and heavy tie renewals, be carried out a year in advance of actual rail renewals, in order to make the old rail, and not the new, take the punishment involved.

Following a discussion of the factors involved in prolonging the life of new rail and fastenings, the committee gave equal attention to the conservation of existing rails in track, reviewing the various methods being employed to this end, including joint bar renewals, rail-end welding, flange oilers, curve reduction, drainage, and the maintenance of proper line and surface. Closing its report, it dealt briefly with the reclamation and re-conditioning of track materials, including frogs, switch points, stock rails, spikes, bolts, tie plates, etc. Careful attention to the possibilities of reclamation, it pointed out, will save a large amount of critical material.

Our Responsibility in a Time of "All-Out-War"

By F. R. Layng*

The present war is being conducted differently in most respects from any previous conflict. Never before has the part of the war effort that falls to civil workers been so essential, so imperative, as at present. You men with your special training have an opportunity such as you have never had before, to render service—more important to my mind than if you were in combat service.

This has been called a war of steel, and no one would suggest that steel is not one of the most important materials necessary to win the war, but in a very real sense this is a war of transportation. Of the four major methods of transportation—rail, water, highway and air—rail is by far the most widely used. Railroad transportation stands supreme in its ability to operate 24 hours a day, 7 days a week and 12 months a year, with marvelous efficiency, flexibility and dependability.

You are all aware of the important place the facilities under your care occupy in the operation of our railroads. Those facilities are the foundation on which the entire railroad plant rests. Any failure in them results in delay, loss and sometimes disaster. If they are not maintained properly, there is a definite loss of efficiency in the operating department. Proper track maintenance is absolutely essential to the prompt, uninterrupted and safe movement of traffic. It is for these reasons that I do not hesitate to emphasize the importance and value of the work in your charge, and to assert that in my judgment you can contribute more to the war effort in your own field than if you were in the armed forces.

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What is ahead of us? Certainly a greatly increased volume of traffic. One estimate made recently is that the ton-miles of freight to be carried next year will exceed those of 1942 by 15 per cent, and that there will be a continuing increase in passenger traffic. Undoubtedly we will see continued progress in the more efficient loading of cars and in the speeding up of trains all along the line. For some time to come we will not be furnished the materials and labor necessary to maintain our present facilities to the standards to which we have been accustomed, and it seems certain that relatively small additions can or will be made to our present facilities. In other words, the railroads will have to do the job with what they now have. We will have to conserve what we have to the fullest extent, reconditioning worn facilities to the limit, and devising new methods to extend the life and usefulness of every part of the railroad plant.

In our particular field—the track department—we have already felt the shortage of labor and materials, and I would not be true to what I sincerely believe if I did not emphasize that in this regard the immediate future not only holds no relief, but promises continued and increasing shortage. Therefore, there is every reason why we should redouble our efforts to conserve what we now have, and bend our thoughts to greater accomplishments along these lines than we have ever dreamed of doing.

Much has been accomplished; the track departments of all of our railroads have performed miracles in carrying successfully the heavy additional loads that have been imposed in the last two years. But if I interpret the immediate future correctly, this means that we will have to do much more. I know of no cunningly devised methods that can be employed. Probably Winston Churchill's warning of "blood, sweat and tears" is what we need.

Recent Developments in Tamping Practices

Pointing out that the proper tamping of the ballast is one of the most important items in the maintenance of adequate track alinement and surface, and is essential to the economical maintenance of any track, the committee handling this subject, of which A. B. Chaney, district engineer, Missouri Pacific, was chairman, endeavored to bring maintenance men up to date relative to the latest developments in tamping equipment and practices.

"The trend for some time," it said, "has been from hand to power or machine tamping. The reason is that the machine can be made to do better work at less cost when all factors are considered. Furthermore, with heavier wheel loads and higher train speeds, the track requires more tamping than it did two decades ago. For present traffic it is necessary that the ballast be kept tight under the bottoms of the ties for satisfactory riding conditions, and this is accomplished only by tamping."

The committee viewed with particular favor the development and adoption of crawler-mounted, pneumatic-tired and other portable, off-track tamper power plants, pointing out that this has greatly increased the amount of productive work in tamping operations and enlarged the scope of the economic use of power tampers. It also gave recognition to the value of the power ballaster in tamping work, pointing out that this machine is used for heavy out-of-face work and is considered most effective where the track is skeletonized, where the ties are renewed ahead of ballast distribution, and where the raise is 2½ in. or more.

At another point in its report, the committee discussed in detail gang organizations best adapted for various classes of tamping work and stressed the importance of skill in obtaining good tamping, and of the proper maintenance of tamping equipment. In the latter regard it said: "Tampers, like other items of equipment, require repairs, replacement of parts and good care to keep them serviceable. These factors deserve special emphasis in these days for, because of the war effort, replacements and repair parts are increasingly difficult to obtain. It is highly important, therefore, to give tamping equipment the best possible care."

Concluding its report, the committee said that, with the urgent necessity for conserving man-power for the war effort, increasing maintenance programs and a growing scarcity of good track labor, it was impressed with the necessity for making maximum use of tamping equipment whenever and wherever such use increases the productive effort and conserves man-hours for other essential purposes.

Scrap—What One Road Found

By C. M. Chumley*

The routine plan on the Illinois Central for the handling of scrap is more or less similar to that of most roads. Therefore, one would think that there would be little chance for any great accumulation of unmoved material. However, we found this far from the case. As a result, early in 1941, in recognition of the urgent need for scrap metal of every kind, our president issued a circular entitled "A Railroad Need—A Patriotic Duty." This circular was followed up by one issued by our operating vice-president, purchasing vice-president and engineering vice-president, emphasizing the importance of collecting and marketing all available scrap. These circulars were distributed over the entire system for the purpose of stimulating and accelerating the regular routine of handling scrap. They were followed up from time to time by other circulars and letters of instructions from the heads of the various departments, urging everyone to gather scrap.

All this had a very telling effect on the amount of scrap collected, and we were pleased with the results being accomplished. However, about the latter part of the year, our vice-president in charge of purchases felt that we were not digging deep enough and that there still remained hidden sources of scrap, as well as of usable materials. Therefore, a special committee was organized under the chairmanship of the general storekeeper, its members representing the bridge, building, signal, water service, roadway equipment, forest products, locomotive and car departments. This committee was instructed to cover the entire system, working with local forces, to see that every nook and corner was searched for scrap and unused or obsolete tools and machines. Every tool, machine, or piece of unused equipment was to be studied and analyzed, and unless its prompt use or early need could be definitely foreseen, it was to be scrapped.

The committee started February 10, 1942, and the larger terminals and shops were the first to be visited. On arrival at these points, meetings were held with local officers and department heads to explain the purpose of the committee, great care being exercised to make the local people understand clearly that the objective was not to find fault or to criticize them for having scrap or usable materials on hand, but rather to aid them in reaching a decision as to what should be scrapped or otherwise disposed of. With this method of handling, the wholehearted co-operation of local forces was obtained immediately and the search was on.

The committee was vested with authority to decide just what material should be retained and what should go into scrap, and, under the circumstances prevailing, was more liberal to the scrap side of the situation. Sub-committees, consisting of division officers and employees, were appointed to make a check of all roadway tool houses, extra-gang and bridge and building gang camp outfits, work shops and other storage places, with the view of turning back to the storehouses, or transferring to other points, all surplus tools and materials, as well as of scrapping those found to be worn out and obsolete. This alone proved of great value, not only in the amount of scrap turned in, but also in making available for further use many tools and a large amount of material.

As a result of this campaign, our scrap sales from August, 1941, to and including August, 1942, have included 73,313 gross tons of ferrous metals and 207 net tons of non-ferrous metals. No record was kept of the amount of scrap unearthed by the committee, as it would have been difficult to differentiate between regular scrap and that turned up by the committee. However, during the period in question, the increase in scrap shipments was approximately 30 per cent over the same period of the pre-

* Engineer Maintenance of Way, Illinois Central, Chicago. This abstract of Mr. Chumley's address leaves out his detailed references to the manner in which the scrap campaign was carried out on the Illinois Central and the specific character of the scrap found, this information having been included in an article entitled Scrap for Victory, which appeared in the *Railway Age* for July 4, page 4.

vious year. Furthermore, the tonnage just mentioned does not include 32,120 net tons of second-hand rail furnished government projects during the same period. Under normal conditions, practically all this rail would have gone into side and yard tracks, thereby producing an equal footage of scrap rail, which would have had a very telling effect on the increase in our scrap shipments.

The results of this intensified campaign have been very gratifying, not only from the standpoint of the large amount of reclaimed and reusable and reclaimable items recovered, but also from that of the large amount of critical scrap gathered and made available for the country's defense effort.

The Maintenance of Roadway Equipment

Stressing the increased importance of the proper operation and maintenance of roadway equipment in the light of present war conditions, with its largely increased work programs and developing shortage of both man-power and equipment, the committee on the Maintenance of Roadway Equipment, of which Ray Marshall, district roadmaster, Great Northern, was chairman, reviewed the entire subject critically and made numerous recommendations to the end that through adequate field and shop maintenance, all present roadway equipment, and such additional equipment as will become available, will have maximum efficient service life.

At the outset, the committee said that "Elemental as the importance of well-maintained roadway machines is at any time in securing the greatest return from their use, the need of an adequate organization for the operation and maintenance of such machines under present conditions is even more imperative. While many of us may wish to obtain additional machines or to replace old equipment with improved units, the tenor of the times demands that we get the maximum possible service from the machines we now have. With the possibility that we will even experience difficulty in obtaining necessary repair and replacement parts for our present equipment, the situation does not look very bright. It calls for careful study and full use of the energy, available resources and ingenuity which we possess if we are to obtain the full value from our present mechanical aids to track maintenance."

Summarizing the many detailed suggestions to this end contained in the body of its report, the committee said in part, as follows:

"The importance of the proper maintenance of roadway equipment has long been appreciated by most railway officers, but in some instances they have been handicapped by out-dated or clumsy organizations which are hold-overs from the days when steam equipment was all that was available. A general survey indicates that many roads have modernized their organizations along lines fundamentally the same, though tailored to meet their particular needs. Generally, on those roads having many units of equipment, it has been found best to make shop repairs to roadway machines in a shop or shops independent of those used for maintaining operating equipment. Repairs to heavy equipment coming under MCB rules usually should be made in mechanical department shops.

"The organization is generally headed by a system supervisor as a means for placing responsibility for the selection of new machines, their allocation and their proper maintenance. Working under his jurisdiction are the various maintenance shops, whether system, division or regional. From these shops, field machine maintainers operate, whose duty it is to handle all field repairs and to instruct the machine operators.

"In administering a system of this nature, it has been the experience of many officers that the following points should be given special attention:

"(1) The activities of the organization in charge of the maintenance of machines are a part of and should be closely co-ordinated with the work of the local maintenance of way and structures department. However, it is important to leave supervision over the machines which have been allocated to a particular territory to the supervisory officer of the maintenance of way department for that particular territory.

"(2) The proper education of machine operators in the care and operation of their machines should not be slighted. Above all, lubrication and cleanliness of equipment should be stressed.

"(3) Field machine maintainers, as well as shops, should be equipped with adequate supplies of tools, well designed for their work.

"(4) Power-driven units designed for specific repair operations have effected substantial savings when installed in maintenance shops.

"(5) Records should be kept to determine the soundness of continuing the use of machines. Much onerous bookkeeping may be avoided by resorting to performance tests."

Concluding its report, the committee said: "We wish to point out again that efficient performance on the job is the ultimate aim of good management in its consideration of roadway machine maintenance. The immediate aim is always to get as much work from our machines at as little cost as possible, with the ultimate end in view of keeping our tracks and structures up to par with the smallest total expenditure. Any substantial deviation from this fundamental precept violates the principles of good management and impairs our war effort."

Highway Crossing Construction and Maintenance

Pointing out that changes in the character and speed of both highway traffic and rail traffic in recent years have added many problems in the design, construction and maintenance of highway-railway grade crossings, the committee that gave consideration to this subject, of which F. E. Schaumburg, roadmaster, Chicago & North Western, was chairman, reviewed briefly the various types of grade crossing construction that have been employed by the railways, giving special consideration to two of the latest types, both of which employ a minimum amount of war-critical materials. Its report also stressed the importance of proper approaches to the more heavily traveled crossings; proper installation of the crossings themselves, especially with respect to drainage, ballast, ties and rail; and proper crossing maintenance.

The two newer types of crossings described are both of the ready-made sectional type. One of them employs creosoted black gum timber bolted together and applied directly to the crossties with lag screws, while the other consists of laminated sectional units of yellow pine or Douglas fir strips placed on edge so that the edge grain of the timber forms the wearing surface. Concerning these newer types of crossings, the committee said in part, as follows:

"The two new types are designed to meet the demands of normal highway traffic and also to conform to today's railway requirements for their installation and maintenance. Completely preframed and bored prior to preservative treatment, these units may be quickly installed by small gangs; their comparatively light weight makes for easy handling; fastenings are so designed that individual sections may be removed later for any work that may be necessary on the track structure; and, in the event of grade crossing elimination, the units can be salvaged and used at other locations. Another timely advantage of the creosoted timber sectional crossings is that their construction and installation require only a small quantity of critical materials, comprising the basic steel fastenings used in their assembly and construction."

Calling attention to the fact that the service life, ultimate economy and maintenance cost of highway crossings are determined to a considerable extent by the character of the preliminary installation work involved in the preparation of the roadbed, drainage provisions, ballasting and track renewal, the committee stressed the importance of adequate attention to all of these factors. Turning then to the matter of crossing approaches, the committee directed attention to a number of important considerations in the interest of smooth-riding and safety, and then closed its report with a detailed consideration of crossing maintenance. "Regardless of the type of crossing," it said, "its proper and adequate maintenance is of considerable importance in the interest of safety, public goodwill and overall economy."

The Pittsburgh Railway Club Was an Attentive Audience

More Effort Urged in Scrap Quest

Situation serious and every minute counts, Roadmasters and Pittsburgh Railway Club told—Labor unions are going to help

RAILROADS in the aggregate and many roads individually have brought credit to themselves in producing iron and steel scrap and releasing relay rail, but there are still roads that have not yet entered the drive aggressively. Meanwhile, railway brotherhoods have held conferences with the War Production Board and have been invited to enlist the active interest of their memberships in locating the precious metal, it was announced by B. C. Bertram, Director of Railway Salvage, War Production Board, in talks to the Roadmasters' and Maintenance of Way Association in Chicago on September 16, and the Pittsburgh Railway Club on September 24.

C. J. Graham, president of the Pittsburgh & West Virginia and of the Pittsburgh Railway Club, introduced the speaker to his Pittsburgh audience, and the meeting was attended by several officers of War Materials, Inc., a new subsidiary of the Reconstruction Finance Corporation with $500,000,000 to spend in tearing down buildings to get scrap, "And that," said the salvage director with characteristic bluntness, "isn't hay." Mr. Graham, who had a few days before offered War Materials, Inc., a train shed in Pittsburgh containing 450 tons of iron and steel scrap and 7,500 lb. of copper, stated that his recent visit through shipyards and defense industries on the Pacific Coast, while the guest of the president of the Great Northern, convinced him that nothing is impossible to this country in war effort, but he expressed anxiety over the situation now confronting the United States in the global war, "where," he said, "we have had nothing but reverses except in the Pacific," and he asserted not only that there never was a better time for railway men to be of service to their country but that everyone must be made to realize that every minute counts. A recent inspection of the Pittsburgh & West Virginia by motor car to locate sources of scrap has produced surprising results, he reported, and orders have been issued that every item of material determined by the annual inventory to have been in stock five years or more is to be scrapped, unless there is an immediate use for it.

Up to the present time, the salvage director of WPB reported, over 400 of the 865 railway companies to which he has written have appointed salvage directors to cooperate with the War Production Board, and many roads have assigned over 100 employees to serve on their salvage committees, with the result that approximately 10,000 railway officers and supervisors are now functioning on railroad scrap and reclamation committees.

Splendid Results on Relay Rail

Since July 1, when the railroads were told that the Army, Navy and other war agencies, including Lend-Lease, would need 40,000,000 lin. ft. of additional relay rail, he brought out, approximately 39,000,000 lin. ft., or 520,000 tons, have been furnished, and for the first time since the demand for this material arose, the War Production Board is ahead of the immediate Army and Navy requirements, although 23,000,000 more lin. ft. are now required than were reported last July. This is a splendid record, he pointed out, and reflects a striking contrast to the situation in June when the chief of the service of supply of the Army notified Donald Nelson, chairman of WPB, that the difficulty of obtaining sufficient quantities of relay rail was having a detrimental effect on the war effort.

The railroads, he said, have proved to be effective allies of the government in scrap production, as well as in transportation, and no responsible spokesman of business or government would now dare to point the finger of scorn at them. In the face of discouraging news

from battle fronts and the approaching winter, when the shortage of scrap will be most critical, he appealed to his listeners to redouble their efforts. While no one can predict how far the country might have to go in obtaining adequate supplies of materials for the war, he expressed the belief that the people of this country would tear down their own homes to get the shingles, if that proved necessary. He particularly cautioned railroads against taking the view, however, that, with respect to available scrap, their railroad is as "clean as a hound's tooth," adding that some roads after launching one scrap drive, launched a second and a third which netted more scrap in each case than the previous drives. He especially urged the supervisors to keep up a determined and personal interest in the scrap work, and in support of his view that this would have a powerful effect on the rank and file of employees, quoted a statement reported made to him by W. M. Jeffers, president of the Union Pacific, that "railway presidents can't sit in swivel chairs and expect their men to pick up the scrap."

Facts Lacking

At Pittsburgh, he lamented the lack of any authentic record, up to the present, of the scrap being produced by the railroads, and expressed the view that the railroads were producing even a larger percentage of the total scrap tonnage in the country than commonly believed. Up to last October, he said, the Bureau of Mines was receiving scrap figures from only 70 railroads, and now receives reports from 143 railroads, while the Iron and Steel Branch of WPB is now obtaining records from 156 railroads. Although these reports are from railroads operating most of the mileage in the country, they do not extend to many small roads which have recently been reporting more scrap per mile than large roads, he stated. Moreover, the information received by these bureaus has not, in his opinion, been co-ordinated or made available with sufficient promptness to show how much the railroads are now contributing to the war effort and how much better some roads may be doing than others. The Salvage Bureau of WPB, he stated, is striving to improve this situation as a means of stimulating scrap production and giving adequate credit where it is due.

An Invitation to the Unions

The invitation which has been extended by the War Production Board to railway labor organizations to participate in the scrap drive, either through their organizations or directly with the railroads, he stated, was an inevitable and welcome development, and he deplored the attitude that WPB could not fairly ask for the endorsement of railroad management and of railway labor at the same time, adding that this is not any one man's war and that it is not the time to quibble about whom anyone should cater to in increasing the production of scrap, and prophesied that railway employees would prove effective in locating undercovered sources of scrap and getting it into the channels of trade.

The distinctive thing about War Materials, Inc., the new agency which has been created to bring out high-cost scrap, is that this agency is empowered and has the financial backing to tap resources of scrap which could not be made available to the government in the usual way, and he urged the railroads to co-operate with that organization to speed the recovery of metal which is waiting for the wrecking crews.

B. C. Bertram (standing) and C. J. Graham (seated) at Pittsburgh

Organization for Scrap

Referring to the organization and state of the scrap work on railroads and to the general situation, Mr. Bertram said in part:

"The Conservation Division of the War Production Board is composed of four sections—an automobile graveyard section, a special projects section, a general salvage section and an industrial salvage section. The industrial section has a director for each of four major industries—utilities, petroleum, mining and railroads.

"When I went to Washington six months ago, I was told that my job was to get the scrap off the railroads. I sought the advice of men of wide experience, including

several railroad presidents, and submitted the proposed plan to them. I also went to the Association of American Railroads and the American Short Line Railroads, so that when the plan was launched, it was reasonably sure to be acceptable to railroad management, and not viewed as just a crackpot scheme. Today the plan is in full operation.

"Early in my experience in Washington, I became aware, through meetings with the Army and Navy Munitions Board, that there was a very definite bottleneck in the scrap program, and that was the inability of the Army and Navy to get a sufficient quantity of relaying rails. Advance knowledge of this serious situation caused us on June 1 to send out an urgent appeal to the managements of 865 railroads to survey their properties to eliminate unnecessary guard rails and more than 2,000 armored crossings, to shorten and eliminate sidetracks and to recover rails from unused tracks wherever found.

"Conferences were held in five cities during the period from July 7 to July 16, in which this message was carried directly to railroad managements. At these meetings, 177 railroads were represented by a total of 379 top flight railroad executives. The chairmen were all railroad leaders whom Donald Nelson, chairman of the War Production Board, had personally invited to direct the meetings.

"From January 1, 1942, to July 1, 1942, the railroads supplied approximately 50,000,000 lin. ft. of relaying rails. The needs of the Army, Navy and Maritime Commission, as of July 1, were, in addition to this amount, 40,000,000 ft. It is now gratifying to report that, since July 1, approximately 39,000,000 lin. ft., or 520,000 tons, of this rail has been allocated and that for the last several weeks we have for the first time been ahead of the immediate Army and Navy requirements. The requirements reported, as of July 1, have since grown to 54,000,000 lin. ft. As a result of the effort of the railroads of the country, we have, however, no apprehension whatever over the ability to furnish this additional amount, or more if needed.

Railroad Scrap Preferred

"Last April in Cleveland, there was held what was known as the salvage clinic. Representatives of many of the large steel companies spoke and everyone stressed the one point that scrap handling has always been an important function on the railroads; that the railroads have facilities for properly segregating the material; and that it was usually found that railroad scrap was free from contamination. Today, when there is a great need for the production of alloy steels—which is made entirely from scrap—railroad scrap is the most desirable of all scrap. The railroads are also one of the largest and most reliable sources of supply, so we find ourselves in the forefront. We contribute between 15 and 20 per cent of all the purchased scrap.

"In undertaking to increase the flow of scrap from railroads, I can accomplish little without the co-operation of every railroad man. I can't stand up and tell you how to run your affairs. All I can do is to show you the urgency, impress upon you the seriousness of the situation and appeal to you to do the job. Not all railroads have become enthusiastic over this thing. Many have. I can name them all on my fingers. They are doing a bang-up job; but that is not enough. There are 865 chartered railroads in the country with whom I am carrying on correspondence and any weak spot in that whole chain reflects on the railroads in general. In Washington, they don't ask me about an individual railroad; they ask me what the railroads are contributing. It is not fair to the railroads that have done a good job for other railroads to be delinquent in the performance of this duty.

No Time to Quibble

"There are many railroad men in the armed forces of our country. Are we going to quibble about these matters? The situation is merely this. The government can't build ships unless it has the great shipways and other facilities and materials, and in order to obtain them, we must have an endless supply of needed materials. Much of this will be governed by the quantities of scrap which the railroads produce.

"There is this matter of inventories of new materials and used materials. It is not enough to advocate the avoidance of waste of any piece of material that might be reclaimed. If that material is not going to be used within a reasonable length of time, it should be scrapped. The same thing is true of new materials.

"Nothing can be gained by dodging an issue. Nothing will be of any constructive value but the plain facts. This hunt for scrap must go on. The most critical time is from now until the end of the year. After then, new blast furnaces will be put into service which will relieve the scrap situation. We will then have more pig iron to use in place of scrap. This winter we will have to rely on the railroads more than ever before.

Unions Can Help

"More and more organized labor is demanding representation in this work, and rightly so. After all, railway managers cannot go out and pick up the scrap themselves. It is their employees who must do it. Many of these men are members of the 22 railroad organizations. I have had meetings with these men on Capitol Hill to discuss plans whereby they may become active in the scrap campaign. Co-operating with me is Alexander Whitney, chairman of the Brotherhood of Railroad Trainmen, who volunteered several months ago to have his membership write letters to us giving the location of scrap. I have no way of knowing, when I receive their reports, how sound these claims are, but I send them to the emergency salvage directors the railroads have appointed to co-operate with me. Experience has shown that about 40 per cent of the reports really produce scrap, and we must not ignore them. If the reports prove baseless, that is one thing; but if the letters point to scrap that the railroads are not aware of, they must be big enough to say, 'I didn't know that; I am glad to find out about it.'

Not Roosevelt's War

"In other words, this is a war that doesn't belong to President Roosevelt and doesn't belong to Mr. Nelson. It is your paycheck and mine that is being taxed to help fight this war. It is a war in which every citizen has every moral right to do just exactly what the members of the brotherhoods are doing. They want to know why their wife has to take an empty tube to the drug store for toothpaste when they see hundreds of tons of scrap lying on the railroad. As a matter of fact, there is no one in any better position to know where the scrap is lying than the men who might have thrown it there. Now, they are minded to come out and tell where it is lying and contribute active help to get it back, and nobody can criticize them for that.

"In the near future, one of the biggest salvage cam-

paigns that the world has ever known will be launched. It will be designed to reach into the home and the farm, and it will be patterned after the job that was done in Nebraska, which resulted in a return, I believe, of 104 lb. of scrap per capita.

Autos and Streets

"I am frequently asked why the government doesn't take up the abandoned street car rails and clean up automobile graveyards. Automobile graveyards are not going to be eliminated, but they will not grow in size. In a year or two, a million or more cars will be taken off the roads. They will have to be dismantled, and an automobile graveyard with 500 cars will have an organization and men who are skilled in this work. If we eliminated these, we would have the scrap which they contain at the present time, but we would lose the organization needed for future dismantling.

"As to street car rails, I have one report that lists 277,000 tons of street car rails that can be made available to the government. Almost all these projects, however, are entangled with legal, financial or political aspects. We have to deal with local chambers of commerce and other local officials and, to make the matter worse, most of this rail can be obtained only at an expense far in excess of the amount that can be recovered from the sale of the scrap. A lot of street car rails have been released. Both cities and volunteer organizations are taking it up. We take advantage of the cases, but not until the recent establishment of War Materials, Inc., has any agency been set up within the government to make it possible to recover most of this scrap. As this new department has $500,000,000 at its disposal—and that isn't hay—it will be possible to recover mountains of scrap which has not been available (the speaker urged the railroads to co-operate with the new agency)."

Concluding, the speaker said that right now we have a very definite and very serious responsibility. Our ships must not be late in reaching the theater of war. We don't want our boys raked with machine gun fire and watching the horizon for American ships that possibly do not arrive because of delinquency in the performance of our duties as we know them here. Everybody realizes the importance of transportation but, in addition, the railroads are being depended upon to furnish a large part of the scrap. Our duty is so well defined that there should be no further delay in fulfilling it.

Railroads Helping to Get Out Costly Scrap

ALTHOUGH War Materials, Inc.—the $500,000,000 agency of the Metals Reserve Company created by the Reconstruction Finance Corporation to wreck structures for scrap—is only a month old and only partially housed and organized, it has already opened negotiations with the railroads and has been "immensely cheered" by the "prompt, practical and whole-hearted way" in which the railroads have responded, according to J. M. Hopwood, president.

As announced by Jesse Jones, Secretary of Commerce, on August 27, the new war agency, which will have its main office in Pittsburgh, was created to augment the work of the War Production Board in meeting the pressing need for more iron and steel scrap, and is empowered to acquire and dismantle old bridges, buildings and other facilities for scrap which can be recovered only at a cost in excess of current scrap prices. This scrap will then be placed at the disposal of the War Production Board for allocation to consumers at the same prices paid for other scrap. The corporation will thus devote its attention to getting out the high cost scrap, while the Conservation Division of the War Production Board concentrates on stimulating the collection of scrap which can be produced in the normal way. As further announced by the Secretary, this company has been requested by the War Production Board to obtain not less than 5,000,000 tons of high cost scrap during the first year of operations, and as much of that as possible before the snow flies. A. C. Clarke, chief engineer of the Baltimore & Ohio, is one of its five directors.

As early as September 5, one week after the formation of the agency, the president of War Materials, Inc., an industrialist of Pittsburgh who was drafted for the job, laid his problem before the railroads by writing the chief executives of all of the operating companies and requesting the appointment of a representative to report railway projects on which wrecking operations could be started promptly. "We cannot wait," President Hopwood explained, "to establish offices, build up personnel and organize for independent action; we must have several million tons of scrap before the next snow flies. What we do after that will be of far less value than what we do now."

As rapidly as the representatives were announced, they have received letters directly from the president of the new scrap body, explaining frankly and precisely the nature and aims of the organization and, as a means of getting results with the least delay and expense, each railway officer so appointed was requested to select at once one or more projects containing substantial tonnages of metal; choose a reliable contractor who could be engaged to wreck the structure; determine: (1) the estimated gross tonnage of scrap recoverable; (2) the estimated cost of wrecking the structure and loading the scrap on cars in unprepared form; (3) the estimated cost of wrecking the structure and loading scrap cut to charging box size; and (4) the time required to do the work; and then to report the facts, preferably by wire, with the assurance that War Materials, Inc., would make immediate arrangements to authorize and finance the work.

Each officer was urged, in effect, to act for the scrap agency in handling one or more initial projects just as he would handle similar undertakings for the railroad. In three months, they were told, War Materials, Inc., would be organized to shoulder its own burdens; but in those three months, the opportunity of a lifetime to be of supreme service to the country in its hour of greatest need might be lost.

"I knew that the railroads of the country were scrap conscious," president Hopwood stated, "but to say that I am gratified by their response to our informal and hurried appeal for assistance in undertaking to meet the present scrap crisis, is putting it mildly. The truth is, that in all my experience I have never seen anything to compare with the way the railroads have arisen to the issue and offered their good wishes and assistance. Over 200 railway officers have telegraphed or written the names of the men I am to look to for help, and already we have numerous projects under way. Our entire organization is aware of this and have been inspired by the practical and aggressive aid we are receiving from the carriers."

Dickerson, Md., Collision

A COLLISION that involved three trains and resulted in the death of at least 12 passengers and two employees and an undetermined number of injuries occurred on the Baltimore & Ohio near Dickerson, Md., about 7:35 a. m. on September 24. The point of the accident is in a cut about 3,000 ft. west of Dickerson and some 35 mi. northwest of Washington, D. C., on a section of double-track main line known as the Metropolitan branch to distinguish it from the road's old main line, now used chiefly for tonnage freight movements.

Most of the persons killed were riding in a Pullman sleeping car of standard all-steel construction, which was the rear car of train No. 18, the eastbound Cleveland-Washington night express, due to arrive at Washington at 8:15 a. m. This car was attached to the train at Pittsburgh, Pa. The train consisted of steam locomotive No. 5046 and ten cars, which were, in order, a mail storage car, a baggage and mail car, a baggage-coach combination car, two coaches, two Pullmans, a diner, and two Pullmans. This train was running approximately on schedule time when the engineer found it necessary to stop to make a minor repair to an air pump.

After a delay of about six minutes this train was just starting forward when it was struck in the rear by train No. 20, the "Ambassador" from Detroit to Baltimore, due to arrive at Washington at 8:20 a. m. The four-unit Diesel-electric locomotive of No. 20 was derailed to the right, with one express car attached to it, and the two rear Pullmans of No. 18 were derailed to the left. The rearmost Pullman was crushed between the Diesel locomotive and cars in a freight train passing on the westbound track. The derailed locomotive and express car continued forward in the line of a drainage ditch along the eastbound track and came to rest against the wall of the cut.

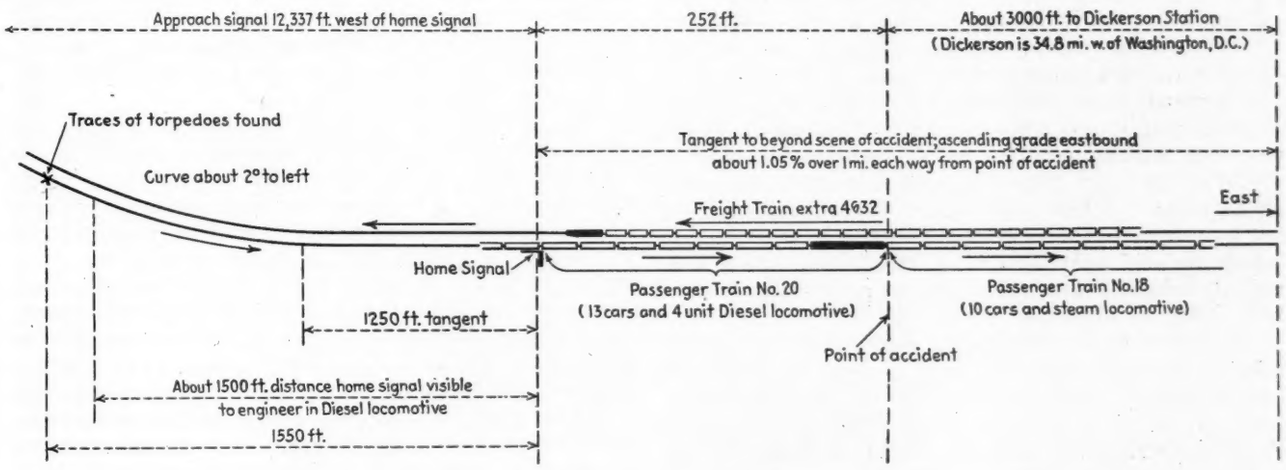
No other passenger cars were derailed, but the westbound freight train was broken apart, and 14 freight cars were derailed. This train, extra 4632, a fast freight known as Philadelphia No. 97, was running at an estimated speed of 40 m. p. h. at the time, under a light service brake application with the throttle closed. The derailed freight cars were thrown across both tracks and into the sides of the cut, and most of them were demolished. Several of these cars were loaded with steel tubing, and this was thrown over and around the derailed cars.

Fuel oil from ruptured tanks on the Diesel locomotive spread over the ground under the derailed equipment. This became ignited, and the resulting very hot and stubborn fire burned for several hours, interfering with rescue work and adding to the damage to track and equipment. As soon as the character of the fire became evident employees acted to move to safety the several parts of the trains that remained on the rails. The locomotive of extra 4632 proceeded west with the forward end of its train to Point of Rocks, about 7 mi. west, where it cleared the westbound track so that riggers and work trains could approach the scene from that direction.

The locomotive of No. 18 pulled the forward end of that train ahead and crossed over to the westbound track at Dickerson, then backed to couple to the rear end of the freight train, which it pulled away to the east. Of the 13 cars in train No. 20, only the express car next to the locomotive was derailed. Train No. 6, the "Capitol Limited" eastbound from Chicago to Washington, is scheduled in this territory to follow No. 20 on a headway of about 15 minutes. After this train was flagged its locomotive was coupled to the rear of No. 20, which it pulled back to Point of Rocks.

The point of the accident is on tangent track with a grade of about 1.05 per cent ascending eastbound. On the morning of the accident the rail was said to be very slippery. The line at this point is equipped with automatic (semaphore) block signals, which were apparently functioning properly at the time. On the eastbound track a signal is located 252 ft. west of the point of the accident, and the indication of that signal is ordinarily visible to enginemen on Diesel locomotives for a distance of about 1500 feet. At the time of the accident, however, visibility was restricted by fog to an estimated distance of around 300 ft. The next signal to the west is 12,337 ft. from this signal.

As the flagman of No. 18 was killed in the accident, the exact protection given to his train before the collision is one of the points being explored in the investigatons instituted by the railroad and the Interstate Commerce


Approach signal 12,337 ft. west of home signal
252 ft.
About 3000 ft. to Dickerson Station
(Dickerson is 34.8 mi. w. of Washington, D.C.)
Traces of torpedoes found
Tangent to beyond scene of accident; ascending grade eastbound
about 1.05% over 1 mi. each way from point of accident
Curve about 2° to left
Freight Train extra 4632
East
Home Signal
Passenger Train No. 20
(13 cars and 4 unit Diesel locomotive)
Passenger Train No. 18
(10 cars and steam locomotive)
1250 ft. tangent
Point of accident
About 1500 ft. distance home signal visible
to engineer in Diesel locomotive
1550 ft.

Diagram, Not to Scale, Showing Setting of Dickerson, Md., Collision

Commission and still in progress as this issue of the *Railway Age* went to press. Remains of exploded torpedoes were found on the eastbound track at a point 1802 ft. west of the point of the accident, and remains of a fusee were found 1189 ft. west of the same point. Under rules effective in that territory the maximum authorized speed for passenger trains is 70 m. p. h., but such trains are required to reduce speed so as not to exceed 30 m. p. h. when a cautionary approach signal aspect is observed, and to proceed prepared to stop at the next signal. Passenger trains are required to stop at signals displaying a stop and proceed aspect, then are permitted to proceed prepared to stop within the clear distance visible ahead. The maximum authorized speed for freight trains is 50 m. p. h.

Both tracks were blocked at the point of the collision for approximately 48 hours. During this time trains were detoured over the old main line between Point of Rocks and Relay, Md., near Baltimore. Connecting service was provided between Baltimore and Washington for trains to or from New York, while equipment scheduled in and out of Washington moved over the detour and the line from Washington north. The engineer of No. 20 has been released in bail (provided by the B. & O.) on a technical charge of manslaughter.

Class Rate Hearings Come to Sudden Close

THE Indianapolis, Ind., hearing in the class rate investigation being conducted by the Interstate Commerce Commission was stopped suddenly on October 1, "because of other business in Washington." On September 24, chairman Clyde B. Aitchison announced that it was imperative that Division 2, which is taking testimony, return to Washington and that it would be necessary to end the hearings at Indianapolis on October 1. He ruled that if all witnesses would not have been heard by that date that they could testify before regional examiners later. On September 26, he indicated that the hearings would be resumed at Columbus, Ohio, on November 16.

This class rate investigation was instituted by the commission on its own motion in orders dated July 29 and August 1, 1939, to determine whether the structure can be simplified and made uniform throughout the United States. The rate probe is docketed at No. 28300, Class Rate Investigation, and the classification case, being heard at the same time, as No. 28310. The orders were issued following the Southern governors' case in which certain railroads and political interests attempted to revise rates in the South. After a long delay, the first hearing was held at St. Louis, Mo., on July 10 and 11, 1941.

The hearing at Indianapolis, which opened on Sept. 19, was characterized by the speed at which statistical exhibits were introduced by the commission without comment and cross-examination. Data on the economic development of the country, as originally introduced by W. H. Stevens, assistant director of the commission's Bureau of Transport Economics and Statistics, and certain other exhibits presented at St. Louis were brought up to date. An exhibit of the Tennessee Valley Authority was introduced by A. D. Spottswood and one involving the study of carload freight movements by the Office of Defense Transportation was presented by Beatrice Aitchison, an associate economist for the commission.

Railroad testimony was begun on September 23, when counsel for the Southern roads indicated that they would show that the existing class rate structure of Southern railroads was the result of years of effort by railroads, shippers and the commission to build a system of rates best suited to meet the needs of commerce. The statement of the Southern roads also contended that many of the class rates in the South were considerably under those set as maximum by the commission. Under the circumstances, the statement concluded, the Southern railroads are at a loss to understand the commission's insistence upon an investigation, especially in view of the fact that no shipper complaint of any consequence has been brought before the commission. Among those testifying for the Southern railroads were B. F. Morris, assistant to the vice-president of the Louisville & Nashville, who traced the development of class rates in the South; J. G. Kerr, chairman of the Southern Freight Association, who supported the class rates of the South and who contended that an application of class rates of Official territory, as was proposed at St. Louis, would reduce the revenues of Southern railroads $39,812,189 on the basis of 1939; and L. V. Crane, freight traffic manager of the Southern.

Witnesses for the railroads of Official territory also attacked the rate-relationship study presented by Ford K. Edwards, cost analyst of the commission, at St. Louis and revised at Indianapolis, which showed lower rates in Official territory than in Southern territory. Testimony was directed also against too much rigidity in the class rate structure. Four rate and statistical witnesses for these railroads completed their testimony and introduced a 417-page exhibit between 2 p. m. and 3:15 p. m. on September 24.

The railroads of the Western district, including the Northwest, Trunk Line and Southwestern carriers, began their testimony on September 24 and concluded it on September 26. According to statements of traffic officers of Western lines, the establishment of a uniform scale of class freight rates for the entire country, involving the lowering of class rates in Western territory to levels prevailing in Official territory, would finally result in freight rate increases on farm and other commodities from which the bulk of the freight revenues of Western railroads are drawn. Marked differences in the composition of the traffic of Western and Eastern lines, with Western lines depending mainly for revenues on agricultural and other commodity movements which mean so much less relatively to Eastern lines, were cited by witnesses. They also pointed out that a much larger proportion of the tonnage of Western lines moves on commodity rates, rather than on class rates, and that reductions in class rates consequently would be of relatively little benefit to agricultural and other producers in Western territory.

Witnesses also asserted that results in Western territory, through a period of years in the pre-war period, have indicated a need for increased rather than reduced gross revenues. J. A. Brown, chief traffic officer of the Missouri Pacific stated that "if class rates are reduced, railroads necessarily would have to recoup their revenues through increases in commodity rates to preserve their over all revenues and this in turn would handicap industrial development more than reductions in class rates would benefit it."

The dangers of attempts to reorganize the freight

rate structure under prevailing war conditions wherein all traffic and competitive transportation conditions are in an unsettled state were also emphasized.

Among those testifying for the Western lines were F. W. Robinson, vice-president of the Union Pacific; L. R. Capron, vice-president of the Chicago, Burlington & Quincy; and Glenn F. Vivian, manager of the Statistical bureau of the Western railroads.

Shipper representatives were heard on September 28 to October 1. Prentice Cooper, governor of Tennessee and chairman of a committee of Southern governors appeared on September 28 and said: "We are asking for uniform class rates, mile for mile, east of the Mississippi river and we would like to see just relief from discriminatory freight rates granted to all other regions as well. The Southern governors believe that the discriminatory freight rates now in effect operate to discourage and exclude industry in the South and keep the South as a raw materials producing region and consequently a low-income region. This condition contributes to the economic ills of the South."

Non-ops Ask Pay Rise

DEMANDS for a wage increase of 20 cents an hour, a minimum wage of 70 cents an hour and a closed shop were served on all Class I railroads on September 25 by the 14 non-operating railway labor unions and the Hotel and Restaurant Employees International Alliance.

As the demands were being served by the general chairmen on each railroad, George M. Harrison, grand president of the Brotherhood of Railway and Steamship Clerks, Freight Handlers, Express and Station Employees, and B. M. Jewell, president of the Railway Employees department of the American Federation of Labor, conferred in Washington with representatives of the eastern, southeastern and western carriers to discuss plans for either regional or industry-wide meetings immediately.

Instead of employing the machinery of the Railway Labor Act, the unions desire to effect a short-cut by bringing the matter directly before the National Railway Labor Panel, which was created by President Roosevelt on May 21 to provide wartime procedures whereby labor-management disputes in the railroad industry may be submitted to emergency fact-finding boards without the labor organizations taking strike votes.

In their notice the unions ask that the demands be made effective on October 25, and that the initial conference under the notice be held at the earliest possible date but not later than October 24, at times and places to be designated by the railroads within 10 days after the date of the notice.

"In the event," the notice continues, "that we are unable to reach agreements at system conferences, we propose that the matter be handled on a joint national basis. In accordance with established procedure which has been followed on numerous occasions during the past 12 years, and on the assumption that an agreement may not be reached in separate system conferences, our organization has joined with other brotherhoods serving similar notices in the creation of an Employees' National Conference committee composed of the chief executives of the 15 participating organizations. In the event that an agreement is not reached in system conferences, we request that you join with other carrier managements receiving notices in the creation of a carriers' national conference committee which will be authorized to negotiate to a conclusion, in accordance with the provisions of the Railway Labor Act, the matters of this notice."

The new demands are an outcome of meetings of the non-operating unions held in Chicago on September 18 and 19 at which the relation of the wages of non-operating employees to those of workers in other industries and to the cost of living index formula used by the National War Labor Board in fixing wages in the "little steel" labor dispute were considered by the general chairmen. The demands are made in anticipation of the expiration of the agreement with the railways signed December 13, 1941. This agreement, which granted a basic wage increase of 10 cents an hour with a minimum of 46 cents an hour, was for the 18 months from September 1, 1941, the retroactive date, to February 28, 1943.

The request for a closed shop is the first concerted attempt of railway labor organizations to make union membership a requisite of employment. It was not served upon all railroads because of some existing agreements governing closed shops which date back to the period of Federal control. The demand for the closed shop appears to be a result of repeated attempts of the Congress of Industrial Organizations to secure members among railroad workers.

Specifically, the unions propose, "That all employees represented by and those who are eligible to membership in the 15 organizations shall become members in good standing within 60 days from the date the proposal is accepted and shall remain members in good standing as a condition precedent to continued employment." New employees would be allowed 90 days from the date of hire in which to secure membership.

The demand for a closed shop is a complete reversal of the position taken by labor when it advocated the Railway Labor Act and was instrumental in bringing about the inclusion of the third, fourth and fifth paragraphs of the general duties section of that Act. At that time the unions were in a period of formation and feared that a closed shop, in view of the strength of "company" unions, might impair their progress. At the same time it is said to be an attempt by the unions to evade the provisions of the act by requesting the railroads to violate it, instead of seeking amendments by Congress, which no doubt would result in suggested revisions by management that would not be favored by the unions.

The fourth paragraph of the Railway Labor Act in particular concerns the closed shop. It provides that "Employees shall have the right to organize and bargain collectively through representatives of their own choosing. The majority of any craft or class of employees shall have the right to determine who shall be the representative of the craft or class for the purpose of this Act. No carrier, its officers or agents, shall deny or in any way question the right of its employees to join, organize or assist in organizing the labor organization of their choice, and it shall be unlawful for any carrier to interfere in any way with the organization of its employees, or to use the funds of the carrier in maintaining or assisting or contributing to any labor organization, labor representative or other agency of collective bargaining or in performing any work therefor, or to influence or coerce employees in an effort to induce them to join or remain or not to join or remain members of any labor organization or to deduct from the wages of employees any dues, fees, assessments, or other contributions payable to labor organizations, or to collect or to assist in the collection of any such dues, fees, assessments, or other contributions."

Railroads-in-War News

New Peak for Rail Movement of Oil

Previous records shattered by September 19 week's total of 856,710 barrels

Tank car shipments of oil into the East coast shattered all previous records for the second consecutive week with an average of 856,710 barrels daily for the week ending September 19, according to Petroleum Co-ordinator Ickes. This was an increase of 18,270 barrels daily over the preceding week, when car loadings reached the then all-time record of 838,440 barrels daily.

In the September 19 week 37 companies loaded 28,557 cars. On the basis of an average of 210 barrels per car, these cars carried the equivalent of 5,996,970 barrels of petroleum and petroleum products during the week, Mr. Ickes pointed out.

Moving to increase deliveries still further Mr. Ickes this week announced a plan for the pooling of petroleum supplies and terminal facilities on the Atlantic Seaboard. As a result of the action (ordered in Petroleum Directive No. 59 of the Co-ordinator), all companies receiving petroleum products from the West will join together "in one concerted effort to step up railroad tank car shipments to the maximum and to squeeze the last possible barrel of oil out of all other available overland transportation facilities."

Explaining the order, Deputy Co-ordinator Davies said that tank cars will move to the seaboard in solid trains wherever practicable from now on, and will be unloaded only at selected, centrally-located terminals, capable of handling trainload shipments. Terminals will be located in each of the six zones into which the 17-state East coast area has been divided. Specific sources of supply will be designated in the West and Southwest for each terminal and arrangements made to concentrate products at those points in trainload quantities.

Incoming supplies of all principal products, as well as all products manufactured in Eastern refineries, will be pooled for allocation among all companies operating in a particular zone in proportion to their percentage of total sales in that zone in 1941.

Distribution from terminals to the extent possible will be by truck transport, tank truck, or barge only, with the result that tank car trains will move no further than the central terminals, where they will be unloaded and returned direct to the West on solid trains. The practice in the past has been to break up most trainload shipments at railroad gateways and to fan the tank cars out to bulk plants or to customers for unloading. By stopping this practice, cars will be able to make more round-trips.

To the extent that products can be made available locally by other means, tank car shipments into East coast refining areas or into areas served by pipe line, barge and tanker terminals will be halted. Similarly, shipments out of such areas will be permitted only to the extent that there exists an excess of production and receipts of the four principal products.

Joins WPB Railway Salvage Staff

Arthur E. O'Dea, superintendent of the Lehigh Valley's Buffalo division, with headquarters at Buffalo, N. Y., has joined the staff of the War Production Board, where he will serve as executive assistant to B. C. Bertram, WPB's director of railway salvage.

WPB Ruling on Tar Coatings Will Release Cars

Conservation of transportation facilities is one of the results expected from a recent War Production Board order prohibiting the use of tar coatings on cast-iron soil pipes. The WPB announcement said that, aside from the considerable savings of tar, "is estimated that 150 tank cars and box cars required for transportation of the tar will be made available for other purposes." Also, "over 600 carloads of fuel in the form of coke, coke breeze, coal and oil required annually to heat the pipe and fittings will no longer be necessary."

ODT Establishes Nine Regional Administrative Offices

Nine regional administrative offices have been established by the Office of Defense Transportation "to assist in expediting operations in the fields." The announcement said that the new offices were made necessary "by the expansion of the field staff of various ODT operating divisions, notably the Division of Motor Transport, which is increasing the number of its district offices from 55 to 142."

The regional administrative officers will handle such matters as the allotment of funds to ODT field offices, supervision of accounts, approval of personnel appointments in the field, and "similar administrative functions." They will perform these duties for the field offices of all ODT divisions, the plan being "to bring all such operations together in the same cities and in the same buildings." The plan will be supervised by Simon C. Skeels, ODT administrative officer in Washington.

The nine regional offices are located at New York, Philadelphia, Pa., Atlanta, Ga., Cleveland, Ohio, Chicago, Kansas City, Mo., Denver, Colo., Dallas, Tex., and San Francisco, Calif.

Tank Car Priorities Required by WPB

Directive ranks commodities to be given precedence by the ODT

Calling for World War II's first priorities on movements of commodities in railroad transportation, Chairman Donald M. Nelson of the War Production Board on September 24 issued a certification of necessity directing the Office of Defense Transportation to set up regulations governing shipments by tank car. The Nelson directive (Certification of Necessity for Priority Action No. 1) was issued under the WPB chairman's authority to prescribe to ODT the commodities to which transportation precedence shall be given.

It sets up five classes of materials and commodities transported in tank cars, and directs ODT to execute priorities in the following order: Class A—any material for the Army, Navy, Maritime Commission, War Shipping Administration, or lend-lease; Class B—commodities included in a WPB list of approximately 390 chemicals, foods, edible and non-edible fats and oils, and other miscellaneous products; Class C—petroleum and petroleum products into the Eastern district in quantities certified by the Office of Petroleum Co-ordinator, subject to review by the WPB director general of operations; Class D—petroleum and petroleum products, other than automotive gasoline, within the Eastern district and into or within the other four districts of the country in quantities certified by OPC; Class E—automotive gasoline within the Eastern district and into or within the other districts as certified by OPC, subject to review by the WPB director general of operations.

"Heavy tank car petroleum shipments," the WPB announcement said, "are threatening to impede the movement of seasonal and highly essential vegetable oils, fats and other products. By granting a high priority rating to those products, it will be possible for ODT, at the direction of WPB, to divert tank cars from the carrying of petroleum products and to assure in advance the fair distribution of all commodities vital to the war program which can only be transported by tank car." At the same time, the announcement added, the OPC has been authorized by WPB to order petroleum producers, refiners and distributors to make purchases, sales, exchanges or loans of petroleum and petroleum products, and to arrange for the common use of terminals and distribution facilities.

In a letter accompanying the certifica-

tion of necessity, Mr. Nelson told ODT Director Eastman that the certification was prepared to give ODT "operating flexibility." Under the Executive Order creating ODT, Mr. Nelson went on, "you will be able to take immediate and effective steps, not only in putting into effect the priorities, but in securing such important adjustments as the elimination of back hauls, the operation of a maximum number of solid trains, the co-ordination of tank car shipments with other methods of transportation, and similar matters." The WPB chairman also asked to be advised if Mr. Eastman found his authority inadequate with respect to any of the foregoing matters.

An ODT statement of September 25 called the certification "a specific mandate to distribute the nation's 143,000 tank cars on a basis of first-needs first." The statement went on to say that the volume of vegetable fats and oils to be moved during the October-November peak period will be about 25 per cent heavier than during the same period last year. Recent surveys, however, "indicate that more complete utilization of facilities will permit movement of this increased load with something like 20 per cent fewer cars."

Despite this anticipated increase in utilization, ODT is still faced with the problem "of procuring 2,000 additional cars to handle the fall peak traffic." In other words there is an estimated need for 8,000 cars to handle the peak movement of the vegetable fats and oils, and only 6,000 cars are reported in such service.

"Normally," the ODT statement continued, "these cars would be available to meet the seasonal demand. Several thousand of them, however, have been 'loaned' for the movement of petroleum and petroleum products . . . Approximately 85 per cent of the nation's 143,000 tank cars are transporting petroleum, some 70,000 of them moving oil to the Eastern district . . . Further complicating the situation are new demands for tank cars needed to transport molasses to processing centers and move alcohol from these points to smokeless powder works and butadiene to plants producing rubber substitutes. Future requirements for these latter services, while not completely determined, are expected to be at least 1,500 more tank cars than now are being used.

"Essentially, the major task here is one of co-ordination and allocation. Cars moving petroleum cannot at the same time carry cottonseed oil to processors and consuming centers, or transport toluene to explosives plants. The tank cars must be distributed on the basis of the service most vital to the war effort."

OPA and Transport Charges

The office of Price Administration on September 29 announced special new provisions governing the adjustment of maximum prices for persons supplying transportation, storage or terminal services.

Amendment No. 28 to the General Maximum Price Regulation, effective September 29, requires that consideration for relief will necessitate showing (1) substantial hardship and (2) need for the applicant's service. "This need," said the OPA announcement, "will be viewed in light of the availability and adequacy of substitute service at a price equal to or lower than the maximum price requested."

Machinery to translate this requirement for relief into action is provided in Temporary Procedural Regulation No. 8 effective September 29. This will apply to three types of services: (1) Carriers other than common carriers (common carriers are not covered by OPA's regulations), mainly contract motor carriers; (2) terminal companies—such as waterfront terminals, which perform a variety of services including dock operations, and (3) storage companies.

Western Roads Cut Rates on Cans for Detinning

Responding to a request of the Office of Defense Transportation, Western railroads have reduced rates on tin cans for detinning purposes, from various points West of the Rocky Mountains to South San Francisco, Calif. The new rates, which became effective September 28, are accompanied by lowered carload minimum weights.

They were proposed by ODT at the request of the Salvage and Surplus Property Branch of the Office of the Quartermaster General, War Department, and the War Production Board; and the ODT announcement said that they "are expected to result in the recovery of increased quantities of critically needed tin and a good grade of scrap steel."

N. E. Coal Shipments; RFC Aid for Waterborne Anthracite

All-rail shipments of coal into New England for the week ended September 19 totaled approximately 400,565 net tons, as compared with 358,050 tons during the preceding week, according to Solid Fuels Coordinator Ickes. The largest increase was in shipments of anthracite, which totaled 2,988 cars, making it the second heaviest 1942 week in that respect.

Meanwhile, Reconstruction Finance Corporation and Office of Price Administration announcements revealed that RFC aid to cover excess costs of waterborne coal to certain New England areas has been extended to anthracite. Anthracite dealers who are wholly dependent on water transportation may now apply for the aid under OPA's Compensatory Adjustment Regulation No. 1. The regulation originally applied only to receivers of bituminous.

"Keep the Open Tops Moving"

Success in meeting the increasing demands for open-top cars during the next few weeks will require that "not a single car-day should be wasted," said Chairman W. C. Kendall of the Car Service Division in a recent circular calling upon all transportation officers to adopt a "Keep-the-Open-Tops-Moving" slogan. The acute demand is for gondolas and flats particularly.

"Construction work on war industries and miscellaneous government projects is expanding," Mr. Kendall said. "Sand, gravel, stone and other building material must be transported to these points in increasing volume. Steel must be kept moving to match the accelerated program of shipbuilding without interference or interruption. Much of these movements is over longer distances than ever before. The season of the year is close at hand when shipments of coal and coke will reach their maximum. The sugar beet crop, reported 25 per cent in excess of last year, will be ready for harvest about October 1 and will require the movement of about 125,000 carloads to the refineries. The sugar cane harvest will absorb much open top equipment in the South. There must be no failure to move these crops. Acute demand exists for flat cars, both for government and commercial traffic. The needs for military movement are particularly heavy."

After thus high-lighting the problem, the Car Service Division chairman referred to records indicating that "the shipper and receiver are generally doing their part," and then went on to urge the transportation officers to "do ours equally well." In the latter connection Mr. Kendall made nine specific suggestions as guides in the effort "to avoid any wasted car days."

WPB Requisitions Illinois Terminal

The War Production Board has requisitioned all rails, metal bridges, and electric wires along 155 miles of the lines of the Illinois Terminal Railroad in central Illinois. Routes of the interurban electric railway involved lie between Decatur and Hillery and between Decatur and Mackinaw Junction. The road will continue to operate from Peoria to St. Louis, Mo., and between Springfield and Decatur, serving ordnance plants on the latter run. All rolling stock is to be retained.

With the requisition, the railroad is confronted with two conflicting orders, that of the WPB calling for the tearing up of the line and a previous order of the Illinois Commerce Commission denying the railroad permission to abandon service. The commission's order followed hearings on the application of the railroad and was made because the railroad "had shown no valid cause for discontinuing service and that in view of the rubber and gasoline shortages the people of central Illinois needed more rather than less rail transportation."

Alaska Highway is Nearing Completion

Several months ahead of schedule, the Canadian-Alaskan military highway, which has been under construction by the United States Army Engineers since last March, will be ready for Army use early this winter, according to a War Department announcement. The Engineers expect to finish the road about December 1.

Plans are now being made for winter traffic over the complete route of approximately 1,600 miles between December 1, and April 1, 1943, the period during which the highway and the rivers of the region it traverses will be frozen. During the months of April and May it is believed the road will be unsuitable for heavy traffic owing to thaws and excessive moisture

following the break-up of the winter season.

Although originally contemplated as a rough "pioneer" road, to be completed in one year, the highway as it is now being constructed by the Corps of Engineers is a well-graded, well-drained truck road for practically its entire length and will afford two-way traffic over many long stretches, it was pointed out.

The highway begins at Dawson Creek, British Columbia, just north of Edmonton, pursues a northwesterly course to Whitehorse, in Yukon Territory, then swings west across the Alaskan boundary and thence to Fairbanks.

Service Order Requires Eastbound Loading of Giant Reefers

The Interstate Commerce Commission on September 25 issued Service Order No. 86 suspending Transcontinental Freight Bureau tariffs containing limitations, restrictions and rate penalties on the use of so-called giant type of refrigerator cars and requiring railroads serving points in Arizona and California to place such cars for loading with commodities suitable for transportation in refrigerator cars. The commission acted "to prevent shortage of refrigerator cars" at a time when "certain railroads are about to move from the Pacific Coast eastbound, empty, a large number of these giant type refrigerator cars."

The order, effective from September 25 until October 15, does not apply to refrigerator cars owned by the Pacific Fruit Express Company or the Atchison, Topeka & Santa Fe refrigerator car department.

ODT Will Extend Permit System for Lake Vessels

Acting in response to a War Production Board "directive," the Office of Defense Transportation will extend its permit system applying to certain types of Great Lakes vessels to control the movement of "virtually all commercial craft operating on the lakes." The permit system was established by ODT general orders Nos. 8 and 9, issued last May and June to restrict the movement of grain and coal and thus make available cargo space for the transportation of an expected seasonal total of 89,500,000 tons of iron ore.

Because that total has since "come to be considered merely a minimum goal," the WPB's directive called for a new schedule of shipping priorities. The extension of the permit system will enable ODT to make effective that revised schedule, which gives iron ore moving in ODT-certified ore carriers an A-1 rating, coal, coke and other commodities transported in certain types of vessels an A-2 rating, and various other items lower ratings.

President Asks $5,290,000 More for ODT

President Roosevelt this week transmitted to Congress a request for a supplementary appropriation of $5,290,000 for the Office of Defense Transportation for the current fiscal year ending June 30, 1943. ODT has previously received $7,216,515 for the current year.

In transmitting the estimate, the President sent along a statement from the director of the Bureau of the Budget who said that the funds were needed because of the "increase in the scope of the programs for control of motor and rail transport." The bulk of the money is expected to be required for administration of ODT's certificate-of-war-necessity plan for motor vehicles, although the budget director had this to say of the rail-transport phase:

"The additional funds required for the Division of Railway Transport are needed to strengthen the broad supervision of railroad operations which the Office of Defense Transportation now maintains. The handling of increase traffic with existing facilities has necessitated the adoption of limited pooling arrangements and the inauguration of special controls over such movements as the routing of coal and petroleum. The imposition of limited priority ratings in certain types of rail movement is also imminent. These activities require central planning and administration to a larger degree than was contemplated in the original 1943 estimates."

Rail Labor Leaders Support WPB Drive for Scrap

Organized labor's support of the War Production Board's scrap drive was officially launched on the evening of September 30 when union representatives, including J. G. Luhrsen, executive secretary of the Railway Labor Executives' Association, appeared on a radio program with Wendell Lund, director of WPB's Labor Production Division. The WPB announcement of the program said that Mr. Luhrsen "is asking top officials of the various railway labor organizations to ask their legislative, general and local chairmen and their members to join actively in the scrap salvage campaign."

As noted in the *Railway Age* of September 19, page 457, the railway labor organizations have for some time been active in the scrap drive. Recent reports from union sources indicate that R. L. E. A. hopes to turn up sufficient scrap in abandoned and unused lines to lessen the need for requisitioning by the government of lines now in operation.

Stimson Would Defer New Jersey Waterway for Duration

Following the tack recently taken by President Roosevelt in his comment on the St. Lawrence project, Secretary of War Stimson has advised Chairman Bailey (Democrat of North Carolina) of the Senate committee on commerce of the War Department's opposition to enactment at this time of S. 2667, pending bill which would authorize construction of the proposed Delaware-Raritan canal from Raritan bay to the Delaware river. Mr. Stimson said that he recognized the value of the project as a link in the Atlantic intracoastal waterway, but went on to assert that demands of the war program make it impracticable to devote materials and labor to the project which would not be completed for several years.

Chairman Bailey had asked Secretary Stimson's views on the project which Major General Reybold, chief of engineers, sometime ago approved as a ship canal to cost an estimated $185,000,000, after the board of engineers for rivers and harbors had submitted a report approving a barge canal at a cost of $145,000,000.

Transportation Index, 1929-42

How the demands of war are taxing the country's transportation facilities is shown by "A Total Transportation Index, 1929-42" appearing in the September issue of the "Survey of Current Business," monthly publication of the United States Department of Commerce. The index, prepared by Louis J. Paradiso and George Perkel of the Bureau of Foreign and Domestic Commerce, indicates that the volume of all forms of United States transportation, including both freight and passenger traffic, in June, 1942, was more than two-thirds greater than in August, 1939, the month before the outbreak of World War II. The seasonally adjusted index for June is estimated at 178 per cent of the 1935-39 average of 100.

This represents an increase of about 40 per cent above the 1929 monthly average volume and more than 25 per cent above the 1941 average. The present level of traffic, said the Commerce Department statement, "appears more striking when it is considered that during the depression the index reached a low of 72—a decline of 43 per cent from 1929—and has since risen almost 150 per cent from this low level." Moreover, attention is called to the "striking difference" in the rate of increase for freight and passenger traffic since Pearl Harbor, freight traffic having increased 18 per cent between December, 1941, and June, 1942, while passenger traffic rose 31 per cent.

The expansion in passenger traffic was attributed chiefly to the increased activity of the armed forces and more extensive travel by business men in connection with activities related to the war effort; although a substantial part was ascribed to the increasing use of commercial forms of transportation by travelers cutting down on private automobile use.

The Total Transportation Index includes five types of freight transportation—rail, air, water (domestic), intercity motor truck, and pipe line; and four types of passenger transportation—rail, air, intercity bus, and local transit.

Nationwide Gasoline Rationing Ordered by Jeffers

Nationwide gasoline rationing on the same basis as the gasoline rationing program now existing in the 17 Eastern States was ordered last week by Rubber Director William M. Jeffers. The program will be carried out by the Office of Price Administration, which has announced that there will be made effective "about November 22" what the OPA statement called a "merging of the gasoline and tire rationing programs into a single system to control mileage of the nation's passenger automobiles according to essentiality of use."

Rubber Director Jeffers' directive stipulated that after its installation the OPA plan will be reviewed by the Office of Defense Transportation "from the standpoint of its effects upon the transportation service of the nation"; and that existing ar-

rangements between ODT and OPA with respect to rations for commercial vehicles in accordance with General Order ODT No. 21 "will be continued and extended throughout the nation." That order establishes ODT's certificate-of-war-necessity plan, as noted in the *Railway Age* of September 12, page 417.

Mr. Jeffers also called for a nationwide maximum speed limit of 35 m.p.h., in which connection ODT Director Eastman came up promptly with a September 26 order making that the maximum limit for "all rubber-tired vehicles in the United States." The only exceptions are vehicles operated under the direction of the armed forces, "or in emergencies for the protection or preservation of life and health or for public safety." The order (General Order ODT No. 23) became effective October 1 for all vehicles except regular-route common carriers, the latter being given until October 15 to make necessary adjustments in their operations.

Another announcement this week from Rubber Director Jeffers' office was that on the appointment of Colonel Bradley Dewey of Cambridge, Mass., as deputy rubber director. The announcement said that Colonel Dewey has been associated with Dewey & Almy Chemical Company, "one of the pioneers in synthetic rubber research in the United States." He is also a consultant on rubber problems to the Army Quartermaster Corps.

New York Central's Scrap Drive Yields 180,000 Tons of Metal

Scrap metal amounting to 180,000 gross tons, mostly iron and steel, has been turned over to the government so far this year by the New York Central system for distribution to designated war industry plants, according to F. E. Williamson, president of the railroad. In addition to this heavy contribution to the nation's scrap pile, the railroad also turned over to the government for military use 25,000 tons of used rail suitable for relaying as yard tracks at military camps and war industry plants. Since steel is usually made half from scrap and half from pig iron, this tonnage provides enough scrap for steel to build twelve 30,000-ton battleships, or a fleet of almost 13,000 tanks of the 28-ton type.

Emphasizing the importance of the railroads as a source of scrap metal, Mr. Williamson pointed out that 80 per cent of the new steel used on the railroad makes available for reuse an equal amount, either in the form of scrap or relayer rail. The New York Central's accumulation of scrap is not limited to iron and steel, but includes 287,000 lb. of rubber, 34,350 lb. of rope and 49,900 lb. of bags and burlap recovered so far this year and such other strategically valuable war materials as aluminum, brass, lead, copper, nickel alloy and manganese in substantial quantities.

Shops, stations, engine terminals, yards and right-of-way are being constantly combed for scrap, which ranges from small flashlight batteries and rubber hose to heavy-duty worn rail and broken parts of locomotives. Abandoned branch lines also yield scrap metal and contribute other materials which may be processed for reuse. Currently, on about 46 miles of abandoned line, track and structures are in the hands of wrecking crews and will supply 6,994 tons of metal scrap and relayer rail. Trackage involving considerable additional mileage is the subject of study looking toward further abandonment. The railroad's scrap operations are centered at its 50-acre scrap and reclamation plant at Ashtabula, Ohio.

Mr. Williamson also called attention to the fact that the New York Central had made available to the government for war use three of its large shops and that in other shops it was producing parts for tanks and other forms of armament.

Revised Tank Car Controls

Clarifying his plan for extending the tank car permit system to hauls of between 100 and 200 miles and shifting much of the burden of the Eastern petroleum movement to large tank cars, Director Eastman of the Office of Defense Transportation on September 28 issued Exception Order ODT 7-3, superseding Exception Order ODT 7-2 which had previously covered the situation. A few days earlier Mr. Eastman had issued a statement explaining that the principal purpose of the plan was to bring about an exchange of smaller cars in the Eastern petroleum movement for larger ones being used on shorter rail hauls; and it was not intended that tank trucks should take on hauls above 100 miles if that involved any abandonment of the shorter hauls "for which trucks are most efficient."

Exception Order ODT 7-3, which becomes effective October 10, makes it clear that, with certain specific exceptions, permits will be required for all movements of crude petroleum and petroleum products in tank cars for distances of 200 miles or less. Exceptions include movements in cars of not less than 7,000 gallons capacity into 17 Eastern states and the District of Columbia, and movements in cars of any capacity into Washington and Oregon.

The Eastman statement on the proper role of tank trucks was issued to clear up "what apparently was a misunderstanding" among truckers. "The principal duty assigned to the operators of tank trucks," he said, "is to take over all shipments of petroleum and petroleum products by rail of 100 miles or less and to engage in longer movements only when the availability of tank trucks permits. The present supply of rubber and tank trucks does not justify a general expansion of tank truck facilities to handle all shipments between 100 miles and 200 miles." The ODT director anticipates that tank-truck operators will cooperate when they understand his plan; but he warned that, unless the desired results are forthcoming, "it may become necessary to apply the permit system to tank trucks for distances over 100 miles."

Materials and Prices

Following is a digest of orders and notices of interest to railroads, issued by the War Production Board and the Office of Price Administration since September 18.

Gasoline—Rationing of gasoline throughout the United States on the same basis as the present program in 17 Eastern states was ordered September 25 by William M. Jeffers, rubber director. The rationing will be carried out by OPA, while the Office of Defense Transportation will review the program from the standpoint of its effects upon the transportation service of the nation. Simultaneously with the directive and pending administrative orders, a statement was issued requesting drivers to conform to a maximum speed limit of not to exceed 35 miles per hour. Trucks, volunteered for the purpose of collecting scrap during the salvage campaign, will not suffer because of wartime gasoline and transportation regulations, it was announced September 21 by the Conservation Division of the War Production Board. The permit remains in effect until October 31.

Iron and Steel—Producers of iron and steel may accept deliveries of maintenance, repair and operating supplies in excess of the amounts authorized under the Production Requirements Plan when necessary for essential operations, it was announced in a telegram issued September 23.

Priorities—Regional offices of WPB were authorized, September 22, to assign high preference ratings for the use of certain materials, where necessary, to prevent stoppages or slowdowns in essential production that might arise from lack of small amounts of the materials. Preference ratings up to AAA to avoid positive losses of essential production and up to AA-2X for other emergency cases may be assigned. The quantities of materials against which such preference ratings in the aggregate may be assigned each month are not to exceed a small specified percentage of the available supply of each material. The materials are aluminum, brass, refined copper, lead, nickel, pig iron, scrap steel, assorted structural steel, other steel (except plate) and zinc.

Prices

Lumber—Maximum Price Regulation No. 223 (Northern hardwood lumber) and Maximum Price Regulation No. 222 (Northern softwood lumber), effective September 23, contain specific dollars-and-cents prices for practically all standard and near-standard grades and items of Northern lumber and a formula for pricing other Northern stock at approximately the levels prevailing in October, 1941. The regulations apply to hardwood and softwood lumber produced in the Lake States of Michigan, Minnesota and Wisconsin, and to certain softwood lumber produced in the Canadian provinces of British Columbia, Alberta, Saskatchewan and Manitoba and shipped to purchasers in the United States. The measures apply only where shipments originate at the mill, with sales from distribution yard stocks remaining under the General Maximum Price Regulation. Concentration yards are treated as mills. The regulations apply to lumber shipped directly to purchasers from mills and concentration yards, regardless of whether the seller is a mill operator, a wholesaler, a commission salesman or a retailer. By adopting the prices prevailing for softwood and hardwood during the first part of October, 1941, the regulations restore the normal competitive relationship between Northern lumber and lumber from other areas, most of which is already under price regulations which established ceilings at the levels of October 1-15, 1941.

Second hand tools—Supplementary Order No. 20, effective September 26, requires every second hand machine tool or second hand machinery dealer to register with OPA. A dealer's license may be suspended if he violates any provision of Supplementary Order No. 20 or any price schedule or regulation covering such machine tools and machinery. The dealer thereupon loses his privilege to do business. Maximum prices for second hand machine tools or extras are established in Revised Price Schedule No. 1 (second-hand machine tools). Those for machines and parts are provided in Maximum Price Regulation No. 136 as amended. Ceiling prices for used machine tools range from 50 to 95 per cent of the prices of equivalent new machine tools, according to age and condition. For the used machines and parts covered by Maximum Price Regulation No. 136 as amended, a maximum price of 85 per cent of the maximum price of the nearest equivalent new machine or part is permitted for a rebuilt and guaranteed machine, and 55 per cent if the machine is sold on an "as is" basis.

GENERAL NEWS

Sees Fourth-Quarter Loadings Up 6%

Estimates of Shippers' Advisory Boards put total at 8,666,219 cars

Freight carloadings in the fourth quarter of 1942 are expected to be six per cent above actual loadings in the same quarter of 1941, according to estimates compiled by the 13 Shippers' Advisory Boards.

On the basis of those estimates, freight carloadings of the 27 principal commodities will be 8,666,219 in the fourth quarter of 1942 compared with 8,175,458 for the same commodities in the corresponding period in 1941. Eleven of the 13 Boards estimate an increase in carloadings for the fourth quarter of 1942 compared with the same period in 1941, but two—the Ohio Valley and the New England boards—estimate decreases.

Normally the estimates are based on reports for 29 commodities. Those for automobiles, trucks and parts, ore and concentrates, and chemicals and explosives now have been discontinued as items of war production improper to report in detail. However, an estimate for "manufactures and miscellaneous" has been added which includes both civilian and war commodities.

The tabulation below shows actual carloadings for each district in the fourth quarter of 1941, the estimated loading for the fourth quarter of 1942, and the percentage of increase or decrease for the 27 principal commodities:

Shippers' Advisory Boards	Actual Loadings Fourth Quarter 1941	Estimated Loadings Fourth Quarter 1942	Per Cent Increase or Decrease
New England	178,673	156,143	−12.6
Atlantic States	933,516	1,011,727	+8.4
Allegheny	1,259,671	1,277,355	+1.4
Ohio Valley	1,063,700	1,061,083	−.3
Southeast	879,735	953,819	+8.4
Great Lakes	656,715	681,976	+3.8
Central Western	269,021	321,973	+19.7
Mid-West	1,175,198	1,284,666	+9.3
Northwest	270,550	299,473	+10.7
Trans-Missouri-Kansas	374,986	385,758	+2.9
Southwest	472,321	560,500	+18.7
Pacific Coast	405,121	415,213	+2.5
Pacific Northwest	236,251	256,533	+8.6
Total	8,175,458	8,666,219	+6.0

The 13 boards expect an increase in the fourth quarter of 1942 compared with the same period one year ago, in the loading of 20 of the commodities listed, but a decrease in seven. Among those showing the greatest increases are the following: Cottonseed and products except oil, 30.8 per cent; potatoes, 24.4 per cent; gravel, sand, and stone, 18.8 per cent; citrus fruits, 18.4 per cent; manufactures and miscellaneous, 13.1 per cent; machinery and boilers, 13 per cent; cotton, 12.2 per cent; grain, 11.2 per cent; livestock, 10.4 per cent; cement, 7.7 per cent; other fresh vegetables, 6 per cent, and coal and coke, 5.2 per cent.

The seven commodities for which decreases are estimated and the amount of the decrease follows: Agricultural implements and vehicles other than automobiles, 45.5 per cent; sugar, syrup and molasses, 14.1 per cent; paper, paperboard and prepared roofing, 11.9 per cent; lime and plaster, 10.4 per cent; canned good of all kinds, 4.8 per cent; petroleum and petroleum products, 4.1 per cent, and brick and clay products, 3.4 per cent.

Engine Wage Mediation Continues

Mediation of the demands of enginemen and those of firemen for a new basis for computing wages on Western lines, which were begun at Chicago on September 22, continued this week. The demands of the Brotherhood of Locomotive Firemen and Enginemen are being heard by George A. Cook, chairman of the National Mediation Board, and those of the Brotherhood of Locomotive Engineers are being heard by David J. Lewis, a member of the board.

Club Meetings

Meetings of the Traffic Club of Newark, N. J., are scheduled for October 5 and 12, each to be held at 8 p. m. at the Robert Treat Hotel in Newark. The annual election of officers will take place at the October 5 meeting, at which there will also be a discussion of the current business situation. The October 12 meeting will be a Traffic Club forum.

The Metropolitan Traffic Association of New York will meet at the Hotel Pennsylvania, New York City, on October 8, at which time officers for the next year will be elected.

8 Mo. Net Income Was $466 Million

Net railway operating income for the same period was $816,776,333

Class I railroads in the first eight months of this year had an estimated net income, after interest and rentals, of $466,900,000, as compared with $298,968,517 in the corresponding period last year, according to the Bureau of Railway Economics of the Association of American Railroads. The eight-months net railway operating income, before interest and rentals, was $816,776,333, compared with $651,615,398 in the same 1941 period.

In the 12 months ended with August 31, 1942, the rate of return averaged 4.38 per cent, as compared with 3.66 per cent for the 12 months ended August 31, 1941.

August's estimated net income was $89,400,000, compared with $65,500,129 in August, 1941; while the net railway operating income for that month was $135,264,074, as compared with $111,411,489 in 1941.

Total operating revenues in the eight months amounted to $4,629,747,344, compared with $3,403,544,130 in the same period in 1941, an increase of 36 per cent. Operating expenses amounted to $2,947,031,689, compared with $2,302,227,120, an increase of 28 per cent.

Class I roads in the eight months paid $750,188,664 in taxes, compared with $361,228,043 in the same period in 1941. For August alone, the tax bill amounted to $132,893,622 an increase of $76,136,984 or 134.1 per cent above August, 1941. Sixteen Class I roads failed to earn interest and rentals in the eight months, of which one was in the Eastern district, nine in the Southern district and six in the Western district.

Gross for August totaled $683,806,778 compared with $493,674,008 in August, 1941, while operating expenses totaled $399,292,303 compared with $313,843,279.

Class I roads in the Eastern district in the eight months had an estimated net income of $201,800,000 compared with $176,392,461 in the same period last year. Their eight-months net railway operating income was $339,476,379, compared with $325,624,682. Gross in the Eastern district in the eight months totaled $2,191,814,970, an increase of 29 per cent compared with the same period in 1941, while operating expenses totaled $1,430,615,803, an increase of 25.9 per cent.

The Eastern district's estimated net income for August was $38,000,000 compared with $32,989,199 in August, 1941. Net rail-

way operating income amounted to $55,441,447 compared with $52,298,774.

Class I roads in the Southern district in the eight months had an estimated net income of $81,600,000 compared with $48,485,524 in the same period last year. Those same roads had an eight months net railway operating income of $124,424,240 compared with $91,688,925. Gross in the Southern district in the eight months totaled $650,451,759, an increase of 45.8 per cent compared with the same period in 1941, while operating expenses totaled $395,184,046 an increase of 32.2 per cent. For August the Class I roads in the Southern district had an estimated net income of $11,400,000 compared with $6,518,740 in August, 1941. Net railway operating income, amounted to $17,095,378 compared with $12,583,547.

Class I roads in the Western district in the eight months had an estimated net income of $183,500,000 compared with $74,090,532 in the same period last year. Their net railway operating income was $352,875,714 compared with $234,301,791. Gross in the Western district in the eight months totaled $1,787,480,615, an increase of 42 per cent compared with the same period in 1941, while operating expenses totaled $1,121,231,840 an increase of 29.4 per cent. August net income in the Western district was $40,000,000 compared with $25,992,190 in August, 1941. Net railway operating income amounted to $62,727,249 compared with $46,529,168 in August, 1941.

CLASS I RAILROADS—UNITED STATES
Month of August

	1942	1941
Total operating revenues	$683,806,778	$493,674,008
Total operating expenses	399,292,303	313,843,279
Operating ratio—per cent	58.39	63.57
Taxes	132,893,622	56,756,638
Net railway operating income (Earnings before charges)	135,264,074	111,411,489
Net income, after charges (estimated)	89,400,000	65,500,129
Eight Months Ended August 31		
Total operating revenues	$4,629,747,344	$3,403,544,130
Total operating expenses	2,947,031,689	2,302,227,120
Operating ratio—per cent	63.65	67.64
Taxes	750,188,664	361,228,043
Net Railway Operating income (Earnings before charges)	816,776,333	651,615,398
Net income, after charges (estimated)	466,900,000	298,968,517

Charges for Refrigeration Service

Following the recommendations of Examiner F. L. Sharp's proposed report, the Interstate Commerce Commission has found in a report on further hearing in the No. 20769 proceeding that collection by the railroads of separately-published refrigeration-service charges required in the prior report of October 1, 1940, will not be the proximate cause of diversion of traffic to motor carriers. Involved in the further hearing were charges for switching, supervision, ice haulage, and station and auditors accounting charges; and the carriers are now required to establish such charges.

Like the proposed report, the commission's decision recognized that the trucks have taken much perishable traffic; but it held that competitive advantages enjoyed by the motor carriers would not be greatly augmented by the charges here involved. Also, it took judicial notice of the wartime traffic, suggesting that if trucks can "relieve" the railroads of some perishable shipments, that "will be a desirable accomplishment from the national viewpoint." Finally, the report pointed out that refrigeration-service charges were not increased in Ex Parte 148; although it saw no reason why such service "should not bear its proportionate share of the increase in the cost of railroad labor."

Commissioner Patterson filed a brief dissenting expression to which Chairman Aitchison and Commissioners Lee and Mahaffie subscribed. Mr. Patterson pointed out that the investigation was instituted by the commission 14 years ago, adding that since that time "transportation conditions have materially changed, particularly with respect to competition." He went on to assert that it is unreasonable to require railroads to apply separately-published refrigeration-service charges "when their competitors are not required to and usually do not." Also, he said that such charges "are so inconsiderable in amount" that the railroads should be permitted to waive them, or any part thereof, "to better compete with other forms of transportation that do not make such charges if the remaining transportation charges are not less than reasonable minima for the total services rendered, as clearly appears to be the case here."

Planning for Post-War Roads

What the announcement called "the first actual engineering work on post-war public construction" is "well under way" on a projected highway building program to cost "nearly $500,000,000," according to a September 30 statement from Brigadier General Philip B. Fleming, public works administrator. The projects involved "are aimed at the solution of major traffic problems on main routes through and around cities and on sections of highway that will form part of the proposed interregional highway system"; and General Fleming made it clear that they comprise "only part of the federal-aid highway construction and improvement program to be undertaken after the war."

The engineering work, extending to "detailed plans and specifications ready for contractors' bids," is a joint federal-state undertaking, which is being financed from the special $10,000,000 fund authorized by Congress in the Defense Highway Act of 1941. The statement said that Thomas H. MacDonald, public roads commissioner of FWA, had reported the approval of projects, including the drafting of engineering plans, in California, Massachusetts, Mississippi, Missouri, New Jersey, New York, Oregon, and the District of Columbia. As General Fleming sees the situation, "these major road-building undertakings, together with normal extension of the primary and secondary federal-aid highway systems, plus the extensive repair work that will be necessary as a result of wartime curtailment of highway maintenance, will form an important part of the reserve shelf of necessary public works that the Federal Works Agency is accumulating to help take up the slack of post-war readjustment."

Freight Car Loading

Loadings of revenue freight for the week ended September 26 totalled 897,714 cars, the Association of American Railroads announced on October 1. This was a decrease of 5,385 cars, or 0.6 per cent, below the preceding week, a decrease of 22,080 cars, or 2.4 per cent, below the corresponding week last year, and an increase of 75,280 cars, or 9.2 per cent, above the comparable 1940 week.

As reported in last week's issue, loadings of revenue freight for the week ended September 19 totaled 903,099 cars, and the summary for that week, compiled by the Car Service Division, A. A. R., follows:

Revenue Freight Car Loading
For Week Ended Saturday, September 19

District	1942	1941	1940
Eastern	165,695	184,110	165,837
Allegheny	191,014	196,571	170,383
Pocahontas	55,574	55,273	54,538
Southern	123,741	127,577	111,359
Northwestern	156,061	146,721	137,023
Central Western	136,607	133,639	118,506
Southwestern	74,407	64,078	55,683
Total Western Districts	367,075	344,438	311,212
Total All Roads	903,099	907,969	813,329
Commodities			
Grain and grain products	50,590	44,839	40,943
Live stock	19,201	15,482	18,592
Coal	169,264	159,000	144,483
Coke	14,309	12,865	11,102
Forest products	50,017	46,424	41,022
Ore	89,412	69,721	68,397
Merchandise l.c.l.	88,479	160,224	157,201
Miscellaneous	421,827	399,414	331,589
September 19	903,099	907,969	813,329
September 12	814,885	914,656	804,265
September 5	887,960	797,791	695,094
August 29	899,419	912,720	768,775
August 22	869,404	899,788	761,108
Cumulative Total, 38 Weeks	31,338,465	30,347,955	25,767,606

In Canada.—Carloadings for the week ended September 19 totaled 69,447, as compared to 60,995 in the previous week and 70,867 cars in the corresponding week last year—the compilation being that of the Dominion Bureau of Statistics.

	Total Cars Loaded	Total Cars Rec'd from Connections
Total for Canada:		
Sept. 19, 1942	69,447	37,642
Sept. 12, 1942	60,995	33,904
Sept. 5, 1942	67,530	38,023
Sept. 20, 1941	70,867	30,633
Cumulative Totals for Canada:		
Sept. 19, 1942	2,422,023	1,273,551
Sept. 20, 1941	2,263,418	1,112,566
Sept. 21, 1940	1,984,003	924,895

Sleepers Used as Coaches To Move Holiday Traffic

Pullman sleepers assigned to overnight runs and ordinarily held in yards or on station sidings during the day were used as coaches in day runs to supplement other equipment employed to move the Labor Day passenger business on the Pennsylvania. One hundred and fourteen cars were

so used on September 5 and 109 on September 7. Altogether the Pennsylvania operated a total of 560 extra passenger trains during the holiday period to take care of civilian and military travel, an increase of 37 per cent over the 409 extra trains run during the 1941 period.

Figures are now available to indicate that the increase in traffic this year over the 1941 Labor Day record varied on main line divisions of this road in the East from 54 to 80 per cent. As compared with Fourth of July business this year, the increases reported on the same divisions were from 18 to 21 per cent. By contrast, holiday travel on the Pennsylvania-Reading Seashore Lines, for reasons outlined in *Railway Age* of September 12, page 423, showed a decrease of about 11 per cent as compared with the 1941 Labor Day figures.

To the Navy

John H. King, associate editor of *Railway Age* with headquarters at Washington, D. C., has resigned to accept an ensign's commission in the Navy. Mr. King, whose initial assignment will be to Princeton University, joined the *Railway Age* staff in December, 1936, and has served in the Washington office since that time.

Western Railway Club To Hear General Gray

The initial fall meeting of the Western Railway Club, scheduled to be held at the Hotel Sherman, Chicago, on Monday evening, October 19, will be addressed by Brigadier-General Carl R. Gray, Jr., on the subject "Railroad Men in This and Other Wars." In conjunction with the principal address, a new patriotic moving picture, "America Can Give It," will be shown through the courtesy of the General Motors Corporation.

August Earnings in Canada

The two principal Canadian railways reported August earnings and expenses as follows:

Canadian Pacific

August		
Gross	$22,053,767	$2,064,257
Expenses	18,833,737	1,990,232
Oper. Net	$3,220,030	$74,025
8 Months		
Gross	$165,012,867	$25,823,517
Expenses	136,576,303	23,648,072
Oper. Net	$28,436,564	$2,175,445

Canadian National

August		
Gross	$34,419,000	$8,610,072
Expenses	26,241,341	5,604,145
Oper. Net	$8,177,659	$3,005,927
8 Months		
Gross	$236,967,000	$43,787,142
Expenses	183,038,324	32,054,720
Oper. Net	$53,928,676	$11,732,422

N. Y. Railroad Club

H. Hatch, assistant mechanical engineer of the New York, New Haven & Hartford, will be the principal speaker at the first fall meeting of the New York Railroad Club, to be held at 7:45 P. M., October 15, at the Engineering Societies Building, New York. Mr. Hatch will describe the performance of Diesel locomotives in freight and passenger service, and his remarks will be followed by a discussion period on this subject under the leadership of Charles E. Smith, vice-president of the New Haven, in which other roads using Diesels will be represented. A General Electric sound-color film, "The Inside of Arc-Welding," also will be presented.

Ops to Seek Raise?

The question as to whether the five operating unions should demand increases in wages as was done by the non-operating unions on September 25 was given consideration at a meeting of the heads of the "big five" unions at Cleveland, Ohio, on September 29. No statement as to the action taken was made.

Northwest Board Meeting

The Northwest Shippers Advisory Board will hold its sixty-third regular meeting at Minneapolis, Minn., on October 6. The program will include a report by E. J. Grimes, vice-president of Cargill, Inc., on the handling of the Northwest's bumper grain crop under the provisions of I. C. C. Service order No. 80; an address by Col. Robert S. Henry, assistant to the president of the Association of American Railroads, which will be presented at a joint luncheon; and a report on the results of car efficiency measures adopted by the board.

Fire Damages Denver Streamliner

Two power units and three cars on the City of Denver of the Chicago & North Western—Union Pacific were damaged on September 29, when a fire broke out under one of the power units as the train was moving across northeastern Colorado. According to the railroad, an object flew up from between the rails, 110 miles east of Denver, and punctured a fuel tank in one of the power units. Fire spread to the second power unit, the combination auxiliary power unit and baggage car, the baggage-mail car, and the taproom car. No one was injured and none of the cars left the rails.

Eastman Says New York Cannot Scrap Old "El" Cars

Robert Moses, New York park commissioner, serving as head in New York City of the current drive for industrial salvage, issued on Setpember 24 a statement to the effect that conversion into scrap of an estimated 7,200 tons of steel—contained in retired wooden New York elevated railway cars and in the elevated structure on which a part of them have been held in storage—was held up by orders of the Office of Defense Transportation.

To clarify this situation a statement was issued by ODT Director Joseph B. Eastman in which he said in part, "In the case of the elevated cars, each has a certain number of valuable parts, such as axles and trucks, which simply cannot be replaced. Manufacture of new transportation equipment has already been halted in most categories, and will soon be halted altogether. There would be no worthwhile purpose served, therefore, by scrapping equipment today for which there may be desperate need tomorrow.

"The ODT has at no time issued any order, instruction, or request regarding the structure on which certain of these unassigned cars still rest. Only the cars, not the structure, were 'frozen.' There is not the slightest objection to the removal of any of these cars to other parking space.

"No piece of equipment will be turned into scrap until a full determination is made as to if, where, and when, it may be needed to transport workers or materials in the prosecution of the war."

Accident Prevention Program To Continue on Radio

The radio program series, "Men, Machines and Victory," sponsored by the War Production Fund to Conserve Manpower as a part of the accident prevention program of the National Safety Council, will continue for another 12 weeks on stations of the Blue Network. Earlier programs in this series were referred to in *Railway Age* of August 8, page 244. The hour of the weekly Friday broadcast was changed to 11:15 p. m., E. W. T., beginning October 2, when the program included Jane Cowl as narrator, and Thomas Drever, president of American Steel Foundries, as speaker for the Fund.

Railroad Section at Safety Congress

The Steam Railroad section of the National Safety Council will meet on each afternoon on October 27 to 29 during the thirty-first National Safety Congress at Chicago. The program includes the presentation of the following subjects: Prevention of Highway Grade Crossing and Trespasser Accidents, by Capt. Estel Hack, superintendent of traffic of the Department of Public Safety of the Division of Police of Louisville, Ky.; Wartime Selection and Training of Railroad Forces—New Men, by Dr. Irving S. Cutter, medical director of the Chicago & North Western; Safety in Handling Shipments of Wartime Explosives, by E. J. League, inspector of the U. S. Bureau of Explosives; and Mr. Flannigan Wants to Know, by W. J. Flannigan, assistant superintendent of safety of the Northern Pacific. H. J. Hoglund, assistant to the executive vice-president of the Chicago, Burlington & Quincy will address the meeting on October 28.

Pipe Unions in Tank Car Handrails Prohibited

According to a circular letter recently issued by the A. A. R. Mechanical division, investigation shows that some railroads and private car owners are placing pipe unions in handrails when repairing tank cars and, in some cases, are removing right and left-hand threaded couplings and applying unions; also, that union elbows are sometimes applied in place of standard pipe elbows. The use of pipe unions for this purpose constitutes a safety appliance defect and results in cars being shopped enroute to correct the condition, with re-

sultant delays in the movement of petroleum products during the present national emergency.

In this connection, the following extract from a communication by the director of the Bureau of Safety, Interstate Commerce Commission, addressed to the Mechanical division under date of December 7, 1937, is quoted as follows: "You are respectfully advised that there is nothing in the law or the Commission's orders that authorizes the use of pipe or pipe unions in safety railings of tank cars. If tank car owners insist on using pipe handrails, containing a number of unions in such handrails, it may be necessary to prohibit the use of pipe entirely and use round rods with each handrail continuous and not in sections."

June Bus Revenues 77.3 Per Cent Above June, 1941

Class I motor carriers of passengers reported June revenues of $23,674,448 as compared with $13,353,070 in June, 1941, an increase of 77.3 per cent, according to the latest compilation prepared by the Interstate Commerce Commission's Bureau of Transport Economics and Statistics from 146 reports representing 151 bus operators. Passengers carried were up 75.8 per cent, from 16,939,213 to 29,770,728.

Also, the Bureau has issued its compilation of railroad passenger traffic statistics for June, showing that the buses are still maintaining their lead over railroad coaches in the passengers-carried category. Class I roads carried 28,601,854 coach passengers in June, an increase of 48.4 per cent above June, 1941. Meanwhile, however, railroad passenger revenue from coach business remained above the bus revenue, being $43,553,003 for June, up 95.7 per cent from the same 1941 month.

	Passenger revenue		Passengers carried	
	June, 1942	June, 1941	June, 1942	June, 1941
New England Region	$1,141,086	$652,915	2,729,182	1,436,250
Middle Atlantic Region	2,549,603	1,654,509	4,578,270	2,767,111
Central Region	3,585,961	2,313,782	4,986,770	3,177,109
Southern Region	6,224,440	3,307,251	7,558,779	4,198,453
Northwestern Region	724,580	510,755	512,805	368,686
Mid Western Region	2,112,183	1,260,386	1,424,733	842,363
Southwestern Region	3,685,943	1,749,161	4,220,138	1,938,831
Rocky Mountain Region	302,442	148,871	157,500	92,629
Pacific Region	3,348,210	1,755,440	3,602,551	2,117,781

The breakdown by regions of the bus revenue and traffic figures, which exclude data on charter or special party service, is given in an accompanying table.

Advisory Boards to Meet at Chicago October 16

The National Association of Shippers Advisory Boards will hold its annual meeting at Chicago on October 16. The monthly meeting of the contact committee with the Office of Defense Transportation, regularly held in Washington, will be held at Chicago on the preceding day so that the general chairman and officers of the association may participate.

The planning of the transportation needs for the next few months and the general transportation situation will be discussed at the association meeting. Speakers at the meeting will include Joseph B. Eastman, director of the Office of Defense Transportation, and J. J. Pelley, president of the Association of American Railroads. Col. J. M. Johnson, commissioner of the Interstate Commerce Commission will talk before a joint luncheon meeting with the Traffic Club of Chicago.

August Locomotive Shipments

August shipments of railroad locomotives totaled 146 as compared with 132 in July and 87 in August, 1941, according to reports from builders to the Department of Commerce's Bureau of the Census. Shipments for this year's first eight months totaled 977 locomotives, including 392 steam, 10 electrics, 527 Diesel-electrics, and 48 of other types, as compared with a total 604, including 106 steam, 15 electrics, 440 Diesel-electrics, and 43 of other types during the first eight months of 1941.

The builders reported unfilled orders as of August 31, for 1,649 locomotives, including 783 steam, 48 electrics, 786 Diesel-electrics, and 32 of other types. Comparable figures for August 31, 1941, were: Total, 964; steam, 297; electric, 51; Diesel-electric, 583; other, 33.

Data supplied by the Car Service Division, Association of American Railroads, on locomotive building in railroad shops show that eight locomotives, including four steam and four electrics, were thus produced in August, as compared with one (steam) in August, 1941. During this year's first eight months, railroad shops built 59 locomotives, including 41 steam and 18 electrics, as compared with 10 (eight steam and two electrics) during the first two-thirds of 1941. As of September 1, railroad shops had unfilled orders for 83 locomotives, including 67 steam and 16 electrics.

August Truck Freight Volume 2.2 Per Cent Over July

The volume of freight transported by motor carriers in August increased 2.2 per cent over July and 10.9 per cent over August, 1941, according to American Trucking Associations. Comparable reports were received by A. T. A. from 210 motor carriers in forty-three states. The reporting carriers transported an aggregate of 1,611,488 tons in August, as against 1,576,652 tons in July, and 1,453,709 tons in August 1941.

The A. T. A. index figure, based on the average monthly tonnage of the reporting carriers for 1938-1940, was 182.92; the index for July was 178.92.

Almost 82 per cent of all tonnage transported in August was reported by carriers of general freight. The volume in this category increased 5.2 per cent over July, and 8.7 per cent over August of last year. Transporters of petroleum products, accounting for approximately 13 per cent of the total tonnage reported, showed a decrease of 13.4 per cent under July, but held 44.1 per cent above August, 1941. Haulers of iron and steel products reported about 1½ per cent of the total tonnage. The volume of these commodities showed an increase of 3.9 per cent over July, but dropped 22.2 per cent under August, 1941.

Slightly more than 3½ per cent of the total tonnage reported was miscellaneous commodities, including tobacco, milk, textile products, bricks, building materials, cement and household goods. Tonnage in this class showed an increase of 1.2 per cent over July, but declined 9.2 per cent under August of last year.

Study Board Seeking Help

C. E. Childe, member of the Transportation Study Board, has recently sought the aid of the Railway Business Association in the Board's quest for technically-qualified personnel.

The technological work being done by the Board embraces investigations in the following fields: Locomotive utilization, freight train operation, passenger train service, terminal co-ordination or consolidation, technological progress—roadway and track, locomotive repair programs. For persons qualified in these fields and otherwise available for this employment, there are several jobs paying from $3,200 to $4,600, to start, with possibility of advancement to $5,600. The positions are expected to be of one or two years' duration.

Atlantic States Board to Meet at Baltimore on October 9

The Atlantic States Shippers Advisory Board will hold its fifty-ninth regular meeting at Baltimore, Md., on October 9, with meetings of the Less Carload Transportation, the Railroad Contact, the Emergency Port Transportation and the Executive committees scheduled for October 8. An address by R. B. White, president of the Baltimore & Ohio, will highlight the meeting on October 9, while others who will take part in the program includes R. W. Brown, president of the Lehigh Valley; Warren C. Kendell, chairman and A. P. Stevens, district manager of the Car Service division of the Association of American Railroads; R. C. Huntington, secretary of Casey Jones, Inc.; C. J. Fagg, president of the Newark Central Warehouse Company; and C. B. Roeder, secretary of the Philadelphia Bourse.

Tank Car Owners Agree To Apply Snubbers

In accordance with an A. A. R. Mechanical division circular letter of August 24, addressed to members and private tank car owners, with reference to the application of snubbers to tank car truck spring clusters, the following tank car owners have agreed to permit the railroads to apply such snubbers to their cars and to accept bills therefor on the basis of the interchange rules: The Fleischmann Transpor-

tation Company, John H. Grace Company, Harbor Tank Line Company, Houston Packing Company, Independent Coal Tar Company, International Minerals & Chemical Corp., Keith Railway Equipment Company, O. E. Linsin, Inc., The H. W. Madison Company, Socony Vacuum Oil Co.—White Eagle Div., Stanolind Oil & Gas Company, Louis Stern Sons, Inc., Sylvania Industrial Corp., Union Tank Car Company, War Department Headquarters—Service of Supply, El Dorado Refining Co.

In addition to the foregoing, the following companies advise either that all of their cars are already equipped or that they have purchased the necessary snubbers and will apply them to their own equipment without delay: Champlin Refining Company, City Service Oil Company, Cosden Petroleum Corporation, E. I. DuPont de Nemours and Company, Mather Stock Car Company, Mid-Continental Petroleum Corporation, Pioneer Equipment Company, Sun Oil Company, Lone Star Gasoline Company. (All of this company's cars are already equipped but the company is agreeable to railroads replacing any that become defective in service, rendering bills on the basis of interchange rules.)

Would Disapprove New Two-for-One Rule on Livestock in South

Examiner Claude A. Rice has recommended in a proposed report that the Interstate Commerce Commission find not just and reasonable a proposed new rule to govern the furnishing of single-deck cars, in lieu of double-deck cars ordered by shippers, for loading livestock at points in Southern territory. The new rule would restrict such substitutions for "carrier convenience" to points where there are facilities for the loading of double-deck cars; it was proposed, as the examiner put it, "not to augment carrier revenues," but because of a memorandum pertaining to "alleged nationwide irregularities in the distribution and use of livestock cars," which was transmitted to carrier representatives in March, 1940, by "a member of the Interstate Commerce Commission."

The examiner pointed out that Southern roads own comparatively few double-deck cars, although shippers frequently place orders for such cars to obtain the lower rates applicable thereto. In such cases the carriers have followed the practice of furnishing two single-deck cars in lieu of the double-deckers ordered, and billing the shipment at the double-deck rate. As Mr. Rice viewed the present unrestricted rule, it enables the railroads "to afford equality of rates and substantial equality with regard to car service at all station points where livestock are shipped." Also, he found nothing of record to indicate that the rule has caused light loading of cars, on the average, or that railroad net revenues have been materially affected. The proceeding is docketed as I. & S. No. 5121.

A.A.R. Board Meeting

Directors of the Association of American Railroads, meeting in Washington, D. C., on September 25, discussed the traffic and equipment situations and the new wage demands which had just been filed by the non-operating unions. Throughout the discussion were recurring expressions of hope that the War Production Board would act soon on the carriers' request for materials to build 80,000 freight cars and 900 locomotives during the next year.

The directors received reports showing that bad order cars on September 1 were down to 3.1 per cent of the total, the lowest on record. Other reports showed that the movement of coal by railroad during the first 37 weeks of 1942 was 17 per cent greater than in the comparable 1941 period; that railroad fuel stocks on September 1 were 67 per cent above September 1, 1941; that all-rail coal movements to New England during the first 37 weeks of 1942 were 66 per cent above last year; and that the movement of Great Lakes ore was up 17 per cent.

While the railroads are meeting all present demands for equipment, it was pointed out that additional rolling stock will be needed to handle further large gains in traffic. The executives are reported to have been more apprehensive at the moment about the passenger traffic situation than about freight. Passenger facilities are being strained by heavy week-end travel, and there is little prospect of obtaining materials for additional equipment. The meeting was attended by Director Eastman of the Office of Defense Transportation and Director Boatner of ODT's Division of Railway Transport.

Post-War Planning by National Resources Board

Post-war planning as viewed by the National Resources Planning Board should contemplate among other things "major developments in the transportation field after the war in order to provide a mainspring for other kinds of developmental work throughout the nation." This view is expressed in a 32-page pamphlet entitled "Post-War Planning" which has just been issued by the Board.

Following through from the foregoing reference to transportation the pamphlet reveals that "the forthcoming report of the Board, 'Transportation and National Policy,' provides a further basis for post-war transportation plans." Preparation of this transportation report, which was originally launched under the direction of a committee headed by Owen D. Young, has been underway for some time; and meanwhile the Board has put out a general report with a chapter on transportation which suggested that government ownership in the post-war period of "all rights-of-way" of transportation agencies is an "urgent need" if a "properly conceived modernization of the transportation plant as a whole" is to be achieved. This was the report entitled "Development of National Resources Report for 1942," which President Roosevelt sent to Congress last January, as noted in the *Railway Age* of January 24, page 252.

The "Post-War Planning" pamphlet has this further to say: "New rail facilities, particularly terminals, new highways, new airways and airports, new shipping facilities, will be required, with new equipment and operating techniques fitted to the rapid advance in technology. Many agencies of government are directly concerned with these post-war transportation plans. The Public Roads Administration is at work on interregional highway studies and other projects; the Interstate Commerce Commission has many responsibilities in the field. The United States Maritime Commission, which has enlarged its 10-year-old program for the construction of many merchant vessels, is planning the eventual demobilization of emergency shipping construction and considering the possible place of the United States in international shipping in the post-war world."

Other discussion in the pamphlet called for private enterprise and planning in connection with the post-war period; because "it cannot be too strongly stated, or too often, that government alone can no more win the peace than it can win the war alone." Moreover, it is conceded that government policy "needs reexamination to insure that it operates to encourage a healthy development of private enterprise."

The section on "public activities" list among suitable post-war undertakings of government "certain projects and opportunities for investment of capital which do not offer a chance of profits large enough to attract private capital, or even 100 per cent return of investment." Examples given include: "Public building of roads, canals, bridges, subsidies to railroad construction. . . . " What is needed, the pamphlet said, is not a new system for such government activities; but "a clear realization and bold determination to push government enterprise into lines where it is needed and can be most helpful in achieving those ends we seek."

Bridge and Building Officers to Meet in Chicago

With a program designed to meet the war-time needs of its members in coping with acute shortages of essential materials and of skilled labor, the American Railway Bridge and Building Association will hold its forty-ninth annual meeting at the Hotel Sherman, Chicago, on October 20-22. In this program reports of eight committees will be supplemented with twelve addresses by officers of the ODT, the WPB and of individual railways. The program includes a luncheon on Wednesday noon at which Ralph Budd, president of the Burlington System will address the group on the problems confronting these officers in these critical days. The program follows:

Tuesday, October 20

MORNING SESSION—10:00 A. M.

Opening address by C. E. Johnston, chairman, Western Association of Railway Executives, and associate director, Western region, O. D. T., on Problems That oncerns Us.

Greetings from the A. R. E. A., H. R. Clark (chief engineer maintenance of way, C. B. & Q.), president.

Greetings from the Roadmasters' and Maintenance of Way Association, E. L. Banion (roadmaster, A. T. & S. F.) president.

Address by President R. E. Dove, assistant engineer, C. M. St. P. & P., Chicago.

Report of Committee on Preventing Accidents Among B. & B. Employees; E. H. Barnhardt, chairman (division engineer, B. & O.).

AFTERNOON SESSION—2.00 P. M.

Report of Committee on Cleaning of Masonry Structures; W. A. Huckstep, chairman (general building supervisor, M. P.).

Address on Protection of Railway Structures in Time of War, by B. R. Kulp, chief engineer, C. & N. W.

Report of Committee on Meeting the Demands

for Increased Water Supplies in Fast Freight Service; J. P. Hanley, chairman (water service inspector, Illinois Central).

TUESDAY EVENING—8:00 P. M.

A program on the Blackout of Railway Structures.

Wednesday, October 21

MORNING SESSION—9:00 A. M.

Report of Committee on Wearing Surfaces for Building Floors, Platforms and Roadways; T. H. Strate, chairman (division engineer, C. M. St. P. & P.).

Address on The Outlook for Labor in Bridge, Building and Water Service, by Edwin M. Fitch, assistant director, Division of Transport Personnel, O. D. T.

Report of Committee on Conservation of Bridge, Building and Water Service Supplies; F. G. Campbell, chairman (assistant chief engineer, E. J. & E.).

LUNCHEON—12:15 P. M.

Address by Ralph Budd, president, Burlington.

AFTERNOON SESSION—2:00 P. M.

Address on Critical Materials for Bridge, Building and Water Service Work, by David P. Beach, assistant chief, Maintenance Equipment Section, W. P. B.

Addresses on What We Can Do to Meet the Material Situation:

(a) As Bridge Men, by J. B. Hunley, bridge engineer, New York Central.

(b) As Building Men, by A. L. Sparks, architect, Missouri-Kansas-Texas.

(c) As Water Service Men, by G. E. Martin, superintendent of Water Service, Illinois Central.

Address on Possibilities for Reclamation and Salvage, by R. P. Hart, bridge engineer, Missouri Pacific.

WEDNESDAY EVENING—7:00 P. M.

Informal Dinner.

Thursday, October 22

MORNING SESSION—9:00 A. M.

Report of Committee on Rail Fastenings on Bridges, Pits and Turntables; J. S. Hancock, chairman (bridge engineer, D. T. & I.).

Address on Reducing Demands for Cars and Locomotives for Handling Bridge, Building and Water Service Materials in a Period of Maximum Traffic, by W. D. Beck, district manager, Car Service Division, A. A. R.

Report of Committee on Repair of Steel Bridges; A. R. Harris, chairman, (assistant engineer bridges, C. & N. W.).

AFTERNOON SESSION—2:00 P. M.

Report of Committee on Piles and Pile Driving; W. F. Martens, chairman, (general foreman, B. & B. and Water Service, A. T. & S. F.)

Address on What We Have Gotten from This Meeting to Help Us Maintain Railway Structures for Our All-Out War Effort by A. E. Bechtelheimer, bridge engineer, C. & N. W.

Freezes Passenger Schedules

Director Eastman of the Office of Defense Transportation on October 1 issued general order No. 24, freezing as of September 26 all railroad passenger schedules. The order, effective October 4, prohibits railroads, with certain exceptions, from running special trains, adding new trains to existing schedules, or running extra sections to regular trains, unless such extra sections have been run at least 20 per cent of the time during the past 90 days to handle the normal flow of traffic. Moreover, no railroad may operate a train containing a car which has been chartered for the exclusive use of an individual or group, railroad business cars being excepted.

Although the order is a sweeping one, extending even to mixed trains, there are provisions for the issuance of special or general permits. Director Eastman's action followed upon recent ODT statements of policy calling for the discontinuance of special trains to sports events.

Excepted from the order are trains or cars for the exclusive use of persons traveling under arrangements made by an agency of the federal government; extra sections needed to handle cars occupied by persons traveling on federal government orders; and trains or cars required to be operated as a result of some emergency. With respect to the latter there is a proviso that the chief operating officer of the railroad involved must make a written report within 48 hours to ODT's Division of Railway Transport.

Curtails Government Publications and Mailing Lists

Moving "to clear channels for war information," Elmer Davis, director of the Office of War Information on September 25 issued the first of a series of orders cutting down government publications and mailing lists. The regulation makes binding for the duration of the war all discontinuance and curtailment of publications and other informational materials made by any federal agency between July 1, 1941, and September 25, 1942, and establishes an inter-agency committee to recommend by November 1 further curtailments. Also, it abolishes all general mailing lists made of requests for "all releases and/or publications."

The Interstate Commerce Commission is among the agencies which thus finds frozen for the duration what it has recently accomplished in the way of cutting down reports and distribution lists. In that connection a list accompanying the Davis order shows that the commission has cut the distribution of its reports as follows:

Statistical Analysis of Carriers (rail) Monthly Hours of Service Reports	Distribution cut from 600 to 100; pages cut from 35 to several in summary
Tabulation of Block Signal Statistics	Distribution cut from 7500 to 3750 pages cut from 65 to 40
Annual Report of Director of Bureau of Locomotive Inspection	Distribution cut from 800 to 600
Accident Bulletin (rail)	Discontinued
Graphic Supplement to Monthly Reports	No. of reports reduced from 460 to 406; distribution cut from 115,000 to 50,750
Reports and Orders under Part I of Act	
Rate Cases	No. of reports reduced from 220 to 187; distribution cut from 228,800 to 194,480
Finance Cases	No. of reports cut from 240 to 68; distribution cut from 2400 to 680
Reports and Orders under Part II of Act	
A.	Distribution cut from 218,000 to 130,000
B.	No. of reports cut from 578 to 223; distribution cut from 179,180 to 69,130
Reports and Orders under Part III of Act	No. of orders cut from 25 to 23; distribution cut from 100 to 92
Recommended Reports under Part II of Act	Distribution cut from 168,000 to 88,830
Regulations	Distribution cut from 16,500 to 10,050
Accident Reports—Safety	Distribution cut from 171,600 to 135,700
Distribution cut from 700 to 550; size of page reduced by one-half	

In so far as the commission is concerned the freeze order would seem to mean that the present distribution plan is frozen. The number of reports which the commission puts out is controlled by the number of proceedings which come before it, and that number may vary upward or downward from year to year.

Rate Bureaus Being Probed

A nation-wide investigation to determine if certain railroads, bus and truck companies, waterways and airlines have conspired to fix interstate freight and passenger rates was started by the Anti-trust division of the Department of Justice on September 26, when Daniel B. Britt, assistant U. S. attorney general in charge of the Chicago division issued subpoenas for the Pennsylvania; the Chicago & North Western; the Chicago, Burlington & Quincy; the Chicago, Milwaukee, St. Paul & Pacific and the Illinois Freight Association, directing them to appear on September 30, with documentary evidence pertaining to rate-fixing bodies such as the Illinois Freight Association, the Illinois Rate, the Ohio River-Mississippi Valley, and the Indiana-Illinois Coal and Coke committees and the Traffic Executives Association.

Although only railroads have been named so far in subpoenas, Mr. Britt indicated that the investigation will probably be extended, within a short time, to other forms of transportation. In addition to the Chicago action, the government is reported to be planning additional investigations in New York, Washington, Atlanta, Ga., New Orleans, La., San Francisco, Cal., Kansas City, Mo., St. Louis, and Denver, Colo., at which almost every association in the transportation industry is expected to be brought before a grand jury.

The inquiry is a result of charges that rate bureaus of the transportation lines have illegally fixed rates at high levels through agreements among companies. Preliminary conferences leading up to the investigation are reported to have been attended by representatives of the War and Navy departments, the Interstate Commerce Commission, the Office of Defense Transportation, the Civil Aeonautics Board, the Office of Price Administration and the Department of Agriculture at which, none of these agencies objecting, the way was cleared for prosecution if the grand juries should return indictments.

The government contends that it has been the practice of the railroads to discuss rates at meetings of associations of which they are a part and agree upon rates before filing their tarriffs with the Interstate Commerce Commission. A prime concern of the probe, it is understood, will be the influence that the railroads may have over the development of transportation services that are competitive, such as motor freight carriers, airlines and waterways.

The Chicago proceedings were characterized by Assistant Attorney General Arnold as further steps toward the gathering of information in connection with his investigation of rate-making practices in their relations to the anti-trust laws. Mr. Arnold is understood to feel that published reports overplayed the significance of such steps in view of the fact that his department's study of the practices of rate bureaus had been going on for some time.

It is understood that there is no plan to present evidence at this time, the subpoenas having been issued to enable De-

partment of Justice agents to gain more ready access to records. Similar procedures are expected to be followed in other cities throughout the country.

On the first day at Chicago, about 20 persons were subpoenaed including Walter M. Provine, general attorney of the Chicago & Illinois Midland; Rudolph G. Raasch, chairman of the Illinois Freight Association; Joseph A. Behrle, general freight agent of the Alton; M. A. Smith, chief of the tariff bureau of the Chicago & Eastern Illinois; John H. Kuntz, assistant general freight agent of the Baltimore & Ohio; Benjamin F. Parsons, assistant to the president and secretary of the Chicago Great Western, Clarence A. Pfister, assistant general freight agent of the Chicago, Indianapolis & Louisville; and Lawrence Chaffee, general attorney of the Chesapeake & Ohio. It was indicated that the inquiry will touch particularly on rates on coal and steel and that testimony will be taken until next week.

Terminal Not Thwarting Development of Memorial

The real reason for injecting a new routing scheme into the Jefferson Memorial development at St. Louis, Mo., is to force the railroads to use the competing city-owned bridge so that the complainant may gain $225,000 or more annual revenue at the expense of the Terminal Railroad Association and other defendants, according to the opening statement of Terminal and the St. Louis Merchants Bridge Terminal Railway Company at a hearing before the Interstate Commerce Commission at St. Louis. The hearing was begun on September 17, upon a request by the city that Terminal be ordered to remove its river front elevated tracks so that they will not mar the site upon which the city is building Jefferson Memorial National Park.

The defendants will show during the hearing, the statement pointed out, that it has not refused to negotiate and cooperate in an effort to aid in the solution of the problem and that it was the present city administration and not the defendants who broke off and refused to continue negotiations directed towards an ultimate solution. The defendants are still willing to negotiate, the statement said.

The defendants will also show, the statement continued, that what the complainant proposes cannot properly be called one plan but is "two separate plans, a West Side Temporary Plan purportedly offered as a means of ending in the development of the Memorial and an East Side Permanent Rerouting Plan which has been designedly, though illogically and unnecessarily, tied to the West Side Temporary Plan in an effort to bring this rerouting scheme within the area of civic interest, when in fact the real reason for injecting this rerouting scheme is to force the railroads to use the competing city-owned bridge so that the complainant may gain $225,000 or more annual revenue at the expense of the defendants."

P. J. Watson, Jr., president of Terminal, testified that there is now no congestion of traffic over Terminal's two bridges or need for the release of present facilities as were alleged to exist in 1930 and that the city's rerouting plan would not effect a more economical and expeditious handling of trans-Mississippi traffic generally, as was alleged. "In a state of factual uncertainty and in the midst of heavy war transportation," Mr. Watson said, "we are asked to dismantle our heavily used and essential line, and adopt a temporary makeshift plan together with a rerouting plan that would seriously interfere with traffic and cause untold congestion on the East side. Even if such a proposal were capable of consummation, it would be a most hazardous, ill-advised and unwise move for the best interests of all concerned.

"It is submitted that before any part of the elevated structure is removed, we should know the ultimate plans for the Memorial in order to preserve harmony in railway planning and that a plan for an adequate substitute railway line must be devised that is practicable for efficient railway operation. In addition a basis of equitable apportionment of costs should be agreed upon."

Others testifying were H. Austill, chief engineer of Terminal, who said that the city's plan would cost between 5 and 10 million dollars, including a station on the East side, instead of the city's estimate of $950,000; G. A. Haggander, assistant chief engineer of the Burlington; E. W. Coughlin, assistant to the chairman of the Car Service division of the Association of American Railroads; E. J. Johnson, claim agent; Ira Davis, general superintendent; and Henry Schmittgens, Jr., traffic manager of the Terminal. Carl Giessow, director of the Traffic Bureau of the Chamber of Commerce; A. T. Sindal, traffic commissioner of the Merchants Exchange; J. B. Hunley, engineer of structures of the Ohio Central lines of the New York Central; P. Hamilton, district engineer of the Cleveland, Cincinnati, Chicago & St. Louis; Armstrong Chinn, chief engineer of the Alton; J. R. Coulter, chief traffic officer of the St. Louis-San Francisco; and A. P. Hix, signal engineer and H. A. Smith, purchasing agent of Terminal. Twelve co-defendant railroads started presentation of their rebuttal evidence upon the completion of witnesses for Terminal.

Meetings and Conventions

The following list gives names of secretaries, dates of next or regular meetings and places of meetings:

ALLIED RAILWAY SUPPLY ASSOCIATION.—J. F. Gettrust, P. O. Box 5522, Chicago, Ill.

AMERICAN ASSOCIATION OF FREIGHT TRAFFIC OFFICERS.—W. R. Curtis, G. M. & O. R. R., 105 W. Adams St., Chicago, Ill.

AMERICAN ASSOCIATION OF GENERAL BAGGAGE AGENTS.—E. P. Soebbing, 1431 Railway Exchange Bldg., St. Louis, Mo.

AMERICAN ASSOCIATION OF PASSENGER TRAFFIC OFFICERS.—B. D. Branch, C. R. R. of N. J., 143 Liberty St., New York, N. Y.

AMERICAN ASSOCIATION OF RAILROAD SUPERINTENDENTS.—F. O. Whiteman, Room 332, Dearborn Station, Chicago, Ill.

AMERICAN ASSOCIATION OF RAILWAY ADVERTISING AGENTS.—E. A. Abbott, Poole Bros., Inc., 85 W. Harrison St., Chicago, Ill.

AMERICAN ASSOCIATION OF SUPERINTENDENTS OF DINING CARS.—F. R. Borger, C. I. & L. Ry., 836 S. Federal St., Chicago, Ill.

AMERICAN RAILWAY BRIDGE AND BUILDING ASSOCIATION.—A. G. Shaver, 310 S. Michigan Ave., Chicago, Ill. Annual meeting, October 20-22, 1942, Hotel Sherman, Chicago, Ill.

AMERICAN RAILWAY CAR INSTITUTE.—W. C. Tabbert, 19 Rector St., New York.

AMERICAN RAILWAY DEVELOPMENT ASSOCIATION.—H. C. Millman, Ind., Agent, Pennsylvania R. R., Union Station, Chicago, Ill. Annual meeting October 19-20, 1942, Palmer House, Chicago, Ill.

AMERICAN RAILWAY ENGINEERING ASSOCIATION.—Works in cooperation with the Association of American Railroads, Engineering Division.—

* * *

New Haven Employees Ready To Go on the Air at Cedar Hill

Waiting to take their turns before the microphone in the program of the "Vox Pop" series broadcast on the Columbia network on September 21 from an l.c.l. platform in Cedar Hill Yard, New Haven, Conn., are, left to right: Parks Johnson, one of the "Vox Pop" team; Emil Fisher, traveling passenger agent; Harry H. Darling, passenger conductor; Richard D. Woodbury, tallyman at the l.c.l. transfer, Cedar Hill; Edna and Eileen Reeke, twin grill car attendants; Benjamin T. Savory, engineer; and Warren Hull, the other half of the "Vox Pop" team. Walter Wills, who was interviewed on the job while operating car retarders is not shown here.

News Department continued on next left-hand page

HEAVIER LOADS AND HIGHER SPEEDS

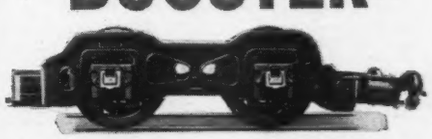
from existing locomotives

The war has placed a tremendous load on the railroads. At the same time it has eliminated new power; therefore, they must increase the capacity of existing power to meet war time demands.

The solution — the Franklin System of Steam Distribution and the Locomotive Booster.*

They are easily applied and provide increased capacity, greater power and higher speeds.

THE FRANKLIN SYSTEM OF Steam Distribution AND THE LOCOMOTIVE BOOSTER



*Trade Mark Registered U. S. Patent Office

FRANKLIN RAILWAY SUPPLY COMPANY, INC. NEW YORK CHICAGO

In Canada: FRANKLIN RAILWAY SUPPLY COMPANY, LIMITED, MONTREAL

W. S. Lacher, 59 E. Van Buren St., Chicago, Ill. Annual meeting, March 16-18, 1943, Palmer House, Chicago, Ill.

AMERICAN RAILWAY MAGAZINE EDITORS' ASSOCIATION.—R. H. Bruckert, Kentucky & Indiana Terminal, Louisville, Ky. Annual meeting, October 15-16, 1942, Kentucky Hotel, Louisville, Ky.

AMERICAN SHORT LINE RAILROAD ASSOCIATION.—J. H. Huntt, Tower Bldg., Washington, D. C. Annual meeting, October 8-9, 1942, Atlanta Biltmore Hotel, Atlanta, Ga.

AMERICAN SOCIETY OF MECHANICAL ENGINEERS. C. E. Davies, 29 W. 39th St., New York, N. Y. Fall meeting, October 12-14, 1942, Sagamore Hotel, Rochester, N. Y. Annual meeting, November 30-December 4, 1942, Hotel Astor, New York, N. Y.

Railroad Division.—E. L. Woodward, *Railway Mechanical Engineer*, 105 West Adams St., Chicago, Ill.

AMERICAN TRANSIT ASSOCIATION.—Guy C. Hecker, 292 Madison Ave., New York, N. Y.

AMERICAN WOOD PRESERVERS' ASSOCIATION.—H. L. Dawson, 1427 Eye St. N. W., Washington, D. C. Annual meeting, April 27-29, 1943, Netherland-Plaza Hotel, Cincinnati, O.

ASSOCIATION OF AMERICAN RAILROADS.—H. J. Forster, Transportation Building, Washington, D. C.

Operations and Maintenance Department.—Charles H. Buford, Vice-President, Transportation Bldg., Washington, D. C.

Operating-Transportation Division. — L. R. Knott, 59 E. Van Buren St., Chicago, Ill.

Operating Section.—J. C. Caviston, 30 Vesey St., New York, N. Y.

Transportation Section.—L. R. Knott, 59 E. Van Buren St., Chicago, Ill.

Fire Protection and Insurance Section.—W. F. Steffens, New York Central, Room 3317, 230 Park Avenue, New York, N. Y.

Freight Station Section.—L. R. Knott, 59 E. Van Buren St., Chicago, Ill.

Medical and Surgical Section.—J. C. Caviston, 30 Vesey St., New York, N. Y.

Protective Section.—J. C. Caviston, 30 Vesey St., New York, N. Y.

Safety Section.—J. C. Caviston, 30 Vesey St., New York, N. Y.

Telegraph and Telephone Section.—W. A. Fairbanks, 30 Vesey St., New York, N. Y.

Engineering Division.—W. S. Lacher, 59 E. Van Buren St., Chicago, Ill. Annual meeting, March 16-18, 1943, Palmer House, Chicago, Ill.

Construction and Maintenance Section.—W. S. Lacher, 59 E. Van Buren St., Chicago, Ill. Annual meeting, March 16-18, 1943, Palmer House, Chicago, Ill.

Electrical Section.—W. S. Lacher, 59 E. Van Buren St., Chicago, Ill.

Signal Section.—R. H. C. Balliet, 30 Vesey St., New York, N. Y.

Mechanical Division.—Arthur C. Browning, 59 E. Van Buren St., Chicago, Ill.

Electrical Section.—J. A. Andreucetti, 59 E. Van Buren St., Chicago, Ill.

Purchases and Stores Division.—W. J. Farrell (Executive Vice-Chairman), Transportation Building, Washington, D. C.

Freight Claim Division.—Lewis Pilcher, 59 E. Van Buren St., Chicago, Ill.

Motor Transport Division.—George M. Campbell, Transportation Bldg., Washington, D. C.

Car-Service Division.—E. W. Coughlin, (Assistant to Chairman), Transportation Building, Washington, D. C.

Finance, Accounting, Taxation and Valuation Department.—E. H. Bunnell, Vice-President, Transportation Building, Washington, D. C.

Accounting Division.—E. R. Ford, Transportation Building, Washington, D. C.

Treasury Division.—E. R. Ford, Transportation Building, Washington, D. C.

Traffic Department.—A. F. Cleveland, Vice-President, Transportation Building, Washington, D. C.

ASSOCIATION OF RAILWAY CLAIM AGENTS.—F. L. Johnson, Claim Agent, Alton R. R., 340 W. Harrison St., Chicago, Ill.

BRIDGE AND BUILDING SUPPLY MEN'S ASSOCIATION.—P. R. Austin, Johns-Manville Sales Corp., Merchandise Mart, Chicago, Ill.

CANADIAN RAILWAY CLUB.—C. R. Crook, 4415 Marcil Ave., N. D. G., Montreal, Que. Regular meetings, second Monday of each month except June, July and August, Windsor Hotel, Montreal, Que.

CAR DEPARTMENT ASSOCIATION OF ST. LOUIS, MO.—J. J. Sheehan, 1101 Missouri Pacific Bldg., St. Louis, Mo. Regular meetings, third Tuesday of each month except June, July and August, Hotel De Soto, St. Louis, Mo.

CAR DEPARTMENT OFFICERS' ASSOCIATION.—Frank Kartheiser, Asst. to Vice-Pres., C. B. & Q., Chicago, Ill.

CAR FOREMEN'S ASSOCIATION OF CHICAGO.—G. K. Oliver, 8238 S. Campbell Ave., Chicago, Ill. Regular meetings, second Monday of each month, except June, July and August, La Salle Hotel, Chicago, Ill.

CENTRAL RAILWAY CLUB OF BUFFALO.—Mrs. M. D. Reed, 1840-42 Hotel Statler, McKinley Square, Buffalo, N. Y. Regular meetings, second Thursday of each month except June, July and August, Hotel Statler, Buffalo, N. Y.

EASTERN ASSOCIATION OF CAR SERVICE OFFICERS.—J. T. Bougher, 424 W. 33rd St., (11th floor), New York, N. Y.

EASTERN CAR FOREMAN'S ASSOCIATION.—W. P. Dizard, 30 Church St., New York, N. Y. Regular meetings, second Friday of January, March, April, May, October and November, 29 W. 39th St., New York, N. Y.

LOCOMOTIVE MAINTENANCE OFFICERS' ASSOCIATION.—C. M. Lipscomb, 1721 Parker Street, No. Little Rock, Ark.

MASTER BOILER MAKERS' ASSOCIATION.—A. F. Stiglmeier, 29 Parkwood St., Albany, N. Y.

NATIONAL ASSOCIATION OF RAILROAD AND UTILITIES COMMISSIONERS.—Ben Smart, 7413 New Post Office Bldg., Washington, D. C. Annual meeting, November 10-12, 1942, Hotel Coronado, St. Louis, Mo.

NATIONAL RAILWAY APPLIANCES ASSOCIATION.—C. H. White, Room 1826, 208 S. La Salle St., Chicago, Ill.

NEW ENGLAND RAILROAD CLUB.—W. E. Cade, Jr., 683 Atlantic Ave., Boston, Mass. Regular meetings, second Tuesday of each month, except June, July, August and September, Hotel Touraine, Boston, Mass.

NEW YORK RAILROAD CLUB.—D. W. Pye, 30 Church St., New York, N. Y. Regular meetings, third Thursday of each month, except June, July, August, September, and December, 29 W. 39th St., New York, N. Y.

PACIFIC RAILWAY CLUB.—William S. Wollner, P. O. Box A, Sausalito, Cal. Regular meetings, second Thursday of each alternate month, at Palace Hotel, San Francisco, Cal., and Hotel Hayward, Los Angeles, Cal.

RAILWAY BUSINESS ASSOCIATION.—P. H. Middleton, First National Bank Bldg., Chicago, Ill. Annual meeting, November, 1942.

RAILWAY CLUB OF PITTSBURGH.—J. D. Conway, 308 Keenan Bldg., Pittsburgh, Pa. Regular meetings, fourth Thursday of each month, except June, July and August, Fort Pitt Hotel, Pittsburgh, Pa.

RAILWAY ELECTRIC SUPPLY MANUFACTURERS' ASSOCIATION.—J. McC. Price, Allen-Bradley Company, 624 W. Adams St., Chicago, Ill.

RAILWAY FUEL AND TRAVELING ENGINEERS' ASSOCIATION.—T. Duff Smith, Room 811, Utilities Bldg., 327 S. La Salle St., Chicago, Ill.

RAILWAY SUPPLY MANUFACTURERS' ASSOCIATION.—J. D. Conway, 308 Keenan Bldg., Pittsburgh, Pa.

RAILWAY TELEGRAPH AND TELEPHONE APPLIANCE ASSOCIATION.—G. A. Nelson, Waterbury Battery Company, 30 Church St., New York, N. Y. Meets with Telegraph and Telephone Section of A. A. R.

RAILWAY TIE ASSOCIATION.—Roy M. Edmonds, 903 Syndicate Trust Bldg., St. Louis, Mo.

ROADMASTERS' AND MAINTENANCE OF WAY ASSOCIATION.—A. G. Shaver, 310 S. Michigan Ave., Chicago, Ill.

SIGNAL APPLIANCE ASSOCIATION.—G. A. Nelson, Waterbury Battery Company, 30 Church St., New York, N. Y. Meets with A. A. R. Signal Section.

SOUTHERN AND SOUTHWESTERN RAILWAY CLUB.—A. T. Miller, 4 Hunter St., S. E., Atlanta, Ga. Regular meetings, third Thursday in January, March, May, July, September and November, Ansley Hotel, Atlanta, Ga.

SOUTHERN ASSOCIATION OF CAR SERVICE OFFICERS.—D. W. Brantley, C. of Ga. Ry., Savannah, Ga.

TORONTO RAILWAY CLUB.—D. M. George, P. O. Box 8, Terminal "A," Toronto, Ont. Regular meetings, fourth Monday of each month, except June, July and August, Royal York Hotel, Toronto, Ont.

TRACK SUPPLY ASSOCIATION.—Lewis Thomas, Q. and C. Company, 59 E. Van Buren St., Chicago, Ill.

UNITED ASSOCIATIONS OF RAILROAD VETERANS.—Roy E. Collins, 12 Hatfield Place, Port Richmond, Staten Island, N. Y. Annual meeting, October 10-11, 1942, Baltimore, Md.

WESTERN RAILWAY CLUB.—E. E. Thulin (Executive Secretary) 122 S. Michigan Ave., Chicago, Ill. Regular meetings, third Monday of each month, except January, June, July, August and September, Hotel Sherman, Chicago, Ill.

THE FIRST 75 FLAT CARS, of an order of 300, have been received by the Canadian National Railways from the Turcot plant of the Canadian Car & Foundry Co., Ltd. The 50-ton all-steel cars, of the fish belly center and side sill type, have an overall length of 52 ft.

Supply Trade

General Electric's Welding Movies Are Widely Used

Over 2,000 reels of the General Electric Company's 16-mm film, "The Inside of Arc Welding," which is used extensively in speeding and facilitating the training of arc welding operators, are in regular use throughout the United States alone, while numerous reels are being used in England, Canada, Brazil, and South Africa. Of these, 30 complete sets are being used by the U. S. Navy in its training programs, and 25 sets by the War Department.

Hundreds of prints of this film are in use by state vocational departments, private welding schools, shipyards, and other industrial manufacturers. Made in full color and sound, six reels in length (although each reel can be shown independently), the movies present clearly, completely, and entertainingly all the basic fundamentals of modern arc welding technique.

Westinghouse Drive Recovers Large Scrap Tonnage

An extra 5,000,000 lb. of metal, rubber and other war-needed materials were salvaged during the last three months in an intensive scrap drive by all divisions of the Westinghouse Electric & Manufacturing Co. This was in addition to routine collections made regularly in all Westinghouse divisions.

The Westinghouse scrap and conservation drive started with an office clean-up week, confiscating rubber inkwells, hundreds of pounds of metal paper weights, and enough low-grade metal gadgets to build eight army tanks. Several dilapidated freight cars were scrapped. Included also were many old electric motors which were beyond repair. In work benches almost five tons of scrappable high-quality steel tools were found. One division turned in 300,000 lb. of old metal parts. In another division, enough metal was turned in to build 35 3,000-kw. generators like those manufactured for the nation's war industries. Three tons of scrap rubber were collected during the campaign, including old conveyor belts, gaskets and countless office gadgets. An abandoned transformer tank at the high-voltage laboratory is now being dismantled to produce ten tons of steel and five more of copper, and five miles of an old telephone line are being ripped up to get eight tons of lead and one ton of copper.

The scrap drive actually is the second part in a Westinghouse two-part plan of material conservation. The first part is to prevent scrap by making the fullest possible use of original materials. For example, a supervisor in the Westinghouse motor division has devised a box which contains new rods and a small compartment for the used stubs. The slot in this compartment is about 2½ in. long, which limits the size of the stubs that can be inserted. To get a new supply of rods, the welding operator must turn in a stub for each rod.

This system is estimated to have reduced scrap loss in welding rods by 30 per

cent and to mean a saving not only in steel rods but also in such vital materials as magnesium, which goes into the coating of the welding rod. To prevent breakage and conserve materials, exhibits have been set up at the shop showing broken pieces, their cost and the amount of time required to replace them.

D. L. Immel has been promoted to assistant plant superintendent at the Warren, Ohio, plant of the **Copperweld Steel Company.**

The Ex-Cell-O Corporation, Detroit, Mich., was presented with the Army-Navy "E" award for high achievement in producing war equipment, at the company's main office in Detroit on September 11.

The **American Hoist & Derrick Co.,** St. Paul, Minn., has been given the United States Maritime Commission award of merit for outstanding achievement in war production. The presentation was made at St. Paul on September 18.

Howard D. Grant, executive vice-president of the **Whiting Corporation,** Harvey, Ill., has been elected president to succeed **Thomas S. Hammond,** who is now in charge of the Chicago District ordnance staff and has been succeeded by **Stevens H. Hammond,** vice-president, as executive vice-president and chief of the executive staff.

George W. Rooney has been elected vice-president and comptroller and a member of the board of directors and executive committee of the **United States Steel Corporation of Delaware,** at Pittsburgh, Pa. Mr. Rooney will relinquish his present position as comptroller of the United States Steel Corporation, the parent company.

George J. Weber, secretary and executive assistant to the president of the **Association of Manufacturers of Chilled Car Wheels,** has been appointed engineer of tests, with headquarters at Chicago, to

George J. Weber

succeed **R. L. Salter,** who has resigned to enter the employ of the Southern Wheel division of the American Brake Shoe & Foundry Co., New York. Mr. Weber entered the employ of the Griffin Wheel Company in 1905 and served as chief inspector and a member of the general operating staff for specialized services, including the operation of foundries. He joined the staff of the Association of Manufacturers of Chilled Car Wheels as secretary in 1934 and in 1936 was also made executive assistant to the president.

Charles H. McCrea, first vice-president, has been elected president of the National Malleable & Steel Castings Co., to succeed the late Carl C. Gibbs, whose death on September 9 was reported in the *Railway Age* of September 19. Mr. McCrea, who is 52 years of age, was graduated from Purdue University with a degree in civil engineering in 1912 and began his business career in the engineering department of the Pennsylvania during college vacations and for three months after graduation. He was employed in the construction department of the Erie from September, 1912, to February, 1913, in which latter month he joined the National Malleable & Steel Castings Co. as a special engineer in the Toledo, Ohio, works. From

Charles H. McCrea

September, 1914, to April, 1916, he worked as service engineer in the company's Cleveland, Ohio, Sharon, Pa., and Chicago offices and from April, 1916, to June, 1917, as a salesman at the St. Louis Mo., office. He served as a captain in the United States army from June, 1917, to January, 1920, returning to the National Malleable & Steel Castings Co. in that month as manager of the St. Louis office. From June, 1922, to October, 1923, he was engaged in sales work in Germany, France, Belgium, England, India, New Zealand and Australia, and subsequently was appointed manager of the St. Louis office in October, 1923, sales manager of the Cleveland works in January, 1931, manager of the Cleveland works in January, 1938, and first vice-president and director of the company in May, 1942.

Lieut. Gen. Brehon B. Somervell, chief of the U. S. Army Services of Supply, commended the job being done by employees of the **American Locomotive Company** during a visit made to the Schenectady, N. Y., plant on September 24 to study tank production. With the completion of additional plant facilities in October, the General said he expected the excellent accomplishments made by the company and its employees would be continued on an even greater scale. Accompanying General Somervell in his tour of the plant were Brig. Gen. John K. Christmas and Brig. Gen. Gordon M. Wells, tank division, office of chief of ordnance; Major H. K. Hastings, aide to Lieut. Gen. Somervell; Colonel Frank J. Atwood, commanding officer, Rochester, N. Y., ordnance district; Colonel Hubert W. Beyette, quartermaster, South Schenectady depot; Colonel John B. Chandler, quartermaster, Vooreesville regulating station; and Colonel Paul Tanner, inspector, ordnance district. Dr. Andrew Stevenson, head of the transportation equipment branch of the War Production Board, also made the inspection with William C. Dickerman, chairman of the American Locomotive Company; D. W. Fraser, president; James E. Davenport, vice-president, engineering, development and research; and William L. Lentz, Schenectady manager.

OBITUARY

Frank E. Blanchard, sales engineer in the engine department of the Caterpillar Tractor Company, Peoria, Ill., died suddenly at Peoria on September 14. He was 54 years of age. Mr. Blanchard was associated with the Milburn Wagon Company from 1913 to 1920 and with the Buda Manufacturing Company of Harvey, Ill., from 1920 to 1924. He was employed by the Climax Engineering Company of Clinton, Iowa, from 1925 until he joined the Caterpillar company in 1935.

Equipment and Supplies

LOCOMOTIVES

THE CENTRAL OF GEORGIA is reported to be inquiring for from five to eight steam locomotives of 4-8-4 wheel arrangement.

FREIGHT CARS

THE COLUMBIA STEEL COMPANY is reported to have ordered 10 gondola cars of 50 tons' capacity from the Pressed Steel Car Company.

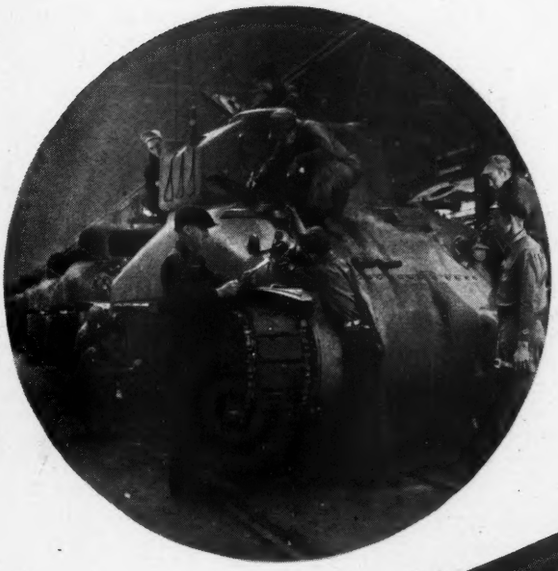
SIGNALING

THE LIMA LOCOMOTIVE WORKS has placed an order with the Union Switch & Signal Co. for ten sets of intermittent inductive automatic train stop equipments for installation on new "S" Class locomotives now being built for the New York, Chicago & St. Louis.

TRAINS WAIT FOR BLACKOUTS—The Southern Pacific's public time tables now carry the notation that trains will not leave certain stations—San Francisco, Oakland, Los Angeles, Portland, Sacramento, San Jose, El Paso and San Diego—at the scheduled time if a blackout is in effect. Ordinarily trains will wait a reasonable time after the "all clear" is sounded, but in the case of extended blackouts the wait is restricted to one or two hours.

News Department continued on second left-hand page

1603
KEEP 'EM



ROLLING!

We've got a double job to do — turning our knowledge and skill to two different ends. For we are building fighting power for the battle front, and, at the same time, we are building the means of creating more and more fighting power of every kind, and of keeping it flowing forth in ever increasing quantities. » » So here at Lima we're building combat tanks — the latest streamlined M-4 medium tanks. And we're building Lima locomotives, too. Tank . . . and locomotive. Each is vital to our nation's war effort, and into each goes in fullest measure that skill and devotion to perfection in every detail that characterizes a "Lima built" product. » » The Lima M-4 tank . . . and the Lima locomotive. Each in its own field will help to speed the victory.

LIMA LOCOMOTIVE WORKS, LIMA LOCOMOTIVE WORKS INCORPORATED INCORPORATED, LIMA, OHIO

Financial

ATCHISON, TOPEKA & SANTA FE.—*Merger of Subsidiaries.*—The California, Arizona & Santa Fe and the Laton & Western have applied to the Interstate Commerce Commission for approval of a plan whereby the properties of L. & W. would be merged into the C. A. & S. F. The application stated that the merger would simplify the corporate structures of the Atchison and the C. A. & S. F.

In another application the Santa Fe has applied for authority to purchase the properties of the Rocky Mountain & Santa Fe.

ATCHISON, TOPEKA & SANTA FE.—*Increases Common Dividend.*—The Atchison, Topeka & Santa Fe on September 29 declared a dividend of $2.50 per share of common stock payable December 1, which compares with a previous quarterly dividend of $1.50 paid September 1, and brings total common disbursements so far this year to $6 per share. Including extras, the Santa Fe paid $10 on its common stock annually from 1927 to 1931; $2.50 in 1932; nothing in 1933; $2 from 1934 to 1937; nothing in 1938 and 1939; $1 in 1940 and $2 in 1941.

ATCHISON, TOPEKA & SANTA FE.—*Merger.*—This company has asked the Interstate Commerce Commission for authority to merge 11 of its subsidiaries in a move to further simplify its corporate structure. The Santa Fe will liquidate and dissolve the 11 subsidiaries and transfer all of their property, franchises and equipment to the parent company.

The companies to be merged with the Santa Fe are: Barton County & Santa Fe; California Southern; Corona & Santa Fe; Eldorado & Santa Fe; Elkhart & Santa Fe; Grand Canyon; Minkler Southern; Oklahoma Central; Salina & Santa Fe; Santa Fe & Los Angeles Harbor; and the Verde Valley.

CENTRAL OF NEW JERSEY.—*Tax Ruling.*—The Central of New Jersey can ignore a judgment of the New Jersey board of taxation that would add $126,042 to the railroad's 1939 taxes, according to a ruling of th U. S. district court at Newark, N. J., on September 18. The ruling held that the railroad's tax liability for 1939 was finally fixed by the court earlier this year in accordance with the state's new compromise railway tax law, the constitutionality of which has been challenged.

CHICAGO, BURLINGTON & QUINCY.—*Abandonment by the Fort Worth & Denver South Plains.*—The Fort Worth & Denver South Plains and the Fort Worth & Denver City, respectively, have asked the Interstate Commerce Commission for authority to abandon the Lockney branch and the operation thereof in Lockney, Tex., 1.4 miles.

COLORADO & SOUTHERN.—*Abandonment.*—The Interstate Commerce Commission, Division 4, has authorized abandonment by the Wichita Falls & Oklahoma and abandonment of operation by the Wichita Valley of 34.65 miles of line forming a continuous route northeast from Wichita Falls, Tex., to Waurika, Okla. The same decision permits the Wichita Falls & Southern to abandon operation under trackage rights over the line.

DELAWARE, LACKAWANNA & WESTERN.—*Abandonment.*—This road has applied to the Interstate Commerce Commission for authority to abandon its 9.9-mile line between Alford Junction, Pa., and Montrose.

ERIE.—*Preferred Stock.*—This road has filed a supplemental application in its reorganization proceeding (Finance Docket No. 11915), seeking an Interstate Commerce Commission order approving the issuance of 4,430 shares of five per cent preferred stock, series B, in connection with the conversion of $443,000 of general mortgage 4½ per cent income bonds, series A. The conversion would be on the basis of 10 shares of preferred for each $1,000 principal amount of the bonds.

GREAT NORTHERN.—*Abandonment.*—This company has been granted authority by Division 4 of the Interstate Commerce Commission to abandon a branch line extending from St. Hilaire, Minn., to the end of the branch at Wylie, 6.8 miles.

NEW YORK, NEW HAVEN & HARTFORD.—*Equipment Trust Certificates.*—The Interstate Commerce Commission, Division 4, has authorized this road to assume liability for $1,390,000 of two per cent equipment trust certificates to be sold at 98.559 per cent of par and accrued dividends to Halsey, Stuart & Company, Inc., the highest bidder among four who responded to the call for bids. The certificates will mature in 10 equal annual installments of $139,000 each on October 1 of each year from 1943 to 1952; and the proceeds will be used to finance in part the acquisition of ten 2,000-hp. Diesel-electric "A" unit passenger and freight locomotives, costing an estimated total $1,738,940.

PACIFIC ELECTRIC.—*Operation.*—This road has been authorized by the Interstate Commerce Commission, Division 4, to operate a line owned by the United States government, extending from a point near Anaheim Junction, Calif., to Terminal Island, 2.66 mi.

SEABOARD AIR LINE.—*Abandonment.*—This company has asked the Interstate Commerce Commission for authority to abandon its Turkey Creek branch extending from Turkey Creek, Fla., to Durant, 4.5 miles.

TEXAS & NEW ORLEANS.—*Abandonment.*—The Interstate Commerce Commission, Division 4, has authorized this road to abandon its La Grange branch, extending from Glidden, Tex., to a connection with the Missouri-Kansas-Texas at La Grange, 24.43 mi.

Average Prices Stocks and Bonds

	Sept. 28	Last week	Last year
Average price of 20 representative railway stocks..	28.52	27.99	29.53
Average price of 20 representative railway bonds..	67.71	68.03	63.65

Construction

PHILADELPHIA, BETHLEHEM & NEW ENGLAND.—The Pennsylvania Public Utility Commission has approved plans calling for the alteration of the grade crossing in Bethlehem, Pa., where two tracks of this railroad cross above state highway route No. 48010. The United States Government is constructing seven new plants in the vicinity of the crossing and, in order to provide adequate service to these plants, the railroad plans to construct two additional lines of tracks to the plants, which will cross above the highway at the same point as the existing two tracks. The alteration will include the erection of a new five-span steel bridge adjacent to the existing bridge. Detailed plans provide for the construction of a deck truss span, 140 ft. in length, across Saucon creek and across state highway route No. 48010; two deck girder approach spans, each 26 ft. in length at the south end of the main span, and two deck girder approach spans, each 30 ft. in length, at the north end, all supported on two reinforced concrete abutments and four reinforced concrete piers. The bridge is designed to accommodate the two tracks of the railroad and to safely carry special and unusually heavy railroad equipment. The Philadelphia, Bethlehem & New England will bear the full cost of constructing the proposed improvement, estimated at $216,165, and will maintain the entire substructure and superstructure.

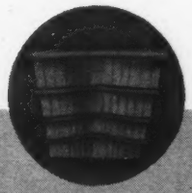
WAR DEPARTMENT.—The U. S. Engineer Office, Charleston, S. C., has awarded a contract in amount less than $500,000 to the W. C. Shepherd Company, Atlanta, Ga., for the relocation of a railroad spur track and highway in South Carolina. The U. S. Engineer Office, Omaha, Neb., has awarded a contract in amount less than $500,000 to the Denver & Rio Grande Western for the construction of a spur track in Colorado. The U. S. Engineer Office at Albuquerque, N. M., has awarded two contracts, each in amount less than $100,000, as follows: One contract to Arizona Constructors, Phoenix, Ariz., for the construction of railroads in Arizona, and the other to Patrick and Prestridge, Albuquerque, for the construction of railroads in New Mexico. The U. S. Engineer Office, Nashville, Tenn., has awarded a contract in amount less than $100,000 to T. M. Strider & Co., Nashville, for grading a railroad siding and road surfacing in Tennessee. Other contracts recently awarded, all of which are in amount less than $50,000, are as follows: The U. S. Engineer Office at Buffalo, N. Y., has awarded a contract to H. F. Stimm, Inc., Buffalo, for the removal and construction of railroad sidings in New York; the U. S. Engineer Office, Jacksonville, Fla., has awarded a contract to the J. B. Gibson Construction Company, Donalsonville, Ga., for the construction of a railroad spur track and repairing an existing track in Flordia; and the U. S. Engineer Office, San Antonio, Tex., has awarded a contract to the Wahrmund Logan Company, San Antonio, Tex., for the construction utilities in Texas for a railway operating battalion.

News Department continued on next left-hand page

The continuous, uninterrupted movement of the tremendously-increased tonnages incident to our war effort calls for the fullest use of every steam locomotive.

One way to increase the availability of your power is through the application of Security Circulators to your existing locomotives. By so doing you obtain:

1. **Improved brick arch support for all locomotive fire boxes.**
2. **Improved circulation in side water legs.**
3. **Reduced flue plugging, cinder cutting and honeycombing.**



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SECURITY CIRCULATOR DIVISION

Railway Officers

EXECUTIVE

Daniel P. Loomis, who has been appointed executive director of the Association of Western Railways, Chicago, with

Daniel P. Loomis

jurisdiction over labor matters, as reported in the *Railway Age* of September 26, was born at Burlington, Vt., on April 6, 1905, and was graduated from Union College in 1925 and from Harvard Law School in 1928. He entered railway service in October, 1928, as an attorney of the Delaware & Hudson and in October, 1936, was promoted to assistant to the general counsel. On January 1, 1939, he was advanced to assistant general counsel, the position he was holding at the time of his recent appointment.

Charles M. Kimball, executive representative of the Southern, with headquarters at Washington, D. C., has been pro-

Blackstone Studios

Charles M. Kimball

moted to assistant to vice-president, in charge of safety activities. Mr. Kimball was born at Atlanta, Ga., and began his railroad career as a messenger boy in the Atlanta shops of the Southern in 1911. He held various clerical positions in the Atlanta shops until his enlistment in the army in 1917. After two years' war service in France, Mr. Kimball resumed his employment with the Southern on February 23, 1919. Mr. Kimball served as supervisor of safety at Birmingham, Ala., and Charlotte, N. C., from February, 1927, until his appointment as executive representative on May 1, 1939. He has served as a member of the Committee on Education of the Safety Section of the Association of American Railroads, a member of the Southern Conference on Human Relations in Industry and chairman of the Steam Railroad Section of safety conferences in several Southern states.

Frank L. Kartheiser, whose promotion to assistant to vice-president (operation) of the Chicago, Burlington & Quincy, with headquarters at Chicago, was reported in the *Railway Age* of September 26, was born at Aurora, Ill., on April 19, 1893, and studied engineering courses. He entered railway service in 1910 as a timekeeper on the Burlington at Aurora, later serving as a dispatcher's clerk at that point and clerk and secretary in the office of the superintendent of motive power at Chicago.

Frank L. Kartheiser

During World War I he attended the Officers' Training School of the U. S. Naval Reserve and later served as an ensign. In 1919, he served with the U. S. Railroad Administration at Chicago and in 1920 he returned to the Burlington, assigned to mechanical statistical analysis. In 1923 Mr. Kartheiser was promoted to chief clerk to the superintendent of motive power and from 1928 to 1936 he served as A. A. R. mechanical inspector. Since 1936 he has served as chief clerk to the mechanical assistant to the executive vice-president until his recent promotion. Mr. Kartheiser has been secretary-treasurer of the Car Department Officers' Association since 1937 and was president of the Car Foremen's Association of Chicago in 1933-34.

R. C. Vaughan, president of the Canadian National, with headquarters at Montreal, Que., has been appointed chairman of the board of directors, succeeding **S. J. Hungerford,** who has retired after 56 years of active railroading in Canada. Although ceasing his active connection with the Canadian National, Mr. Hungerford will continue to act as president of National Railways Munitions Limited, a government-owned company engaged in the manufacture of munitions for the Department of Munitions and Supply. Photographs of Messrs. Vaughan and Hungerford and biographical sketches of their railway careers were published in the *Railway Age* of July 26, 1941, in connection with Mr. Vaughan's election as president of the Canadian National, succeeding Mr. Hungerford.

FINANCIAL, LEGAL AND ACCOUNTING

Everett R. Vaughn has been appointed assistant general attorney of the St. Louis Southwestern, with headquarters at St. Louis, Mo., succeeding **Roy P. Cosper,** who has been granted a leave of absence to join the U. S. Army Air Corps and is now stationed at San Antonio, Tex.

Carleton S. Hadley, vice-president and general counsel of the Terminal Railroad Association of St. Louis, has been appointed general counsel of the Wabash, with headquarters at St. Louis, to succeed **N. S. Brown,** vice-president and general counsel, who retired on October 1.

OPERATING

E. H. Campbell, trainmaster of the Missouri Pacific at Kansas City, Mo., has been promoted to acting terminal superintendent at that point and **T. E. Downer** has been appointed acting trainmaster, succeeding Mr. Campbell.

Rutherford Snell, principal assistant engineer in the office of the transportation engineer of the Chesapeake & Ohio, has been appointed statistician, with headquarters as before at Richmond, Va., succeeding **L. S. Wilbur,** deceased.

T. L. Coughlin has been appointed assistant superintendent of the Canada division of the New York Central system, with headquarters at St. Thomas, Ont. **J. W. McGowean** has been appointed trainmaster of the Canada division.

S. C. Flagler, safety supervisor on the Gulf, Colorado & Santa Fe at Galveston, Tex., has been promoted to safety supervisor of the Eastern lines of the Atchison, Topeka & Santa Fe, with headquarters at Topeka, Kan., succeeding **E. L. Duggan,** who has been appointed night trainmaster at Corwith, Ill.

W. A. Walker has been appointed manager of the Pass Bureau of the Atlantic Coast Line, with headquarters at Wilmington, N. C., succeeding **B. H. Marshall,** who retired at his own request on September 30, after more than 56 years of service with the Atlantic Coast Line and predecessor companies.

C. A. Hughes, trainmaster of the Missouri Pacific at Monroe, La., has been promoted to assistant superintendent, with the same headquarters, a newly created position, and **Howard Jones,** trainmaster at Nevada, Mo., has been transferred to Mon-

News Department continued on next left-hand page

"Every day, every hour gained in speeding weapons to our men means hundreds and thousands of lives saved."

—Henry L. Stimson,
Secretary of War

The constant roar of freight trains echoes our railroads' response.

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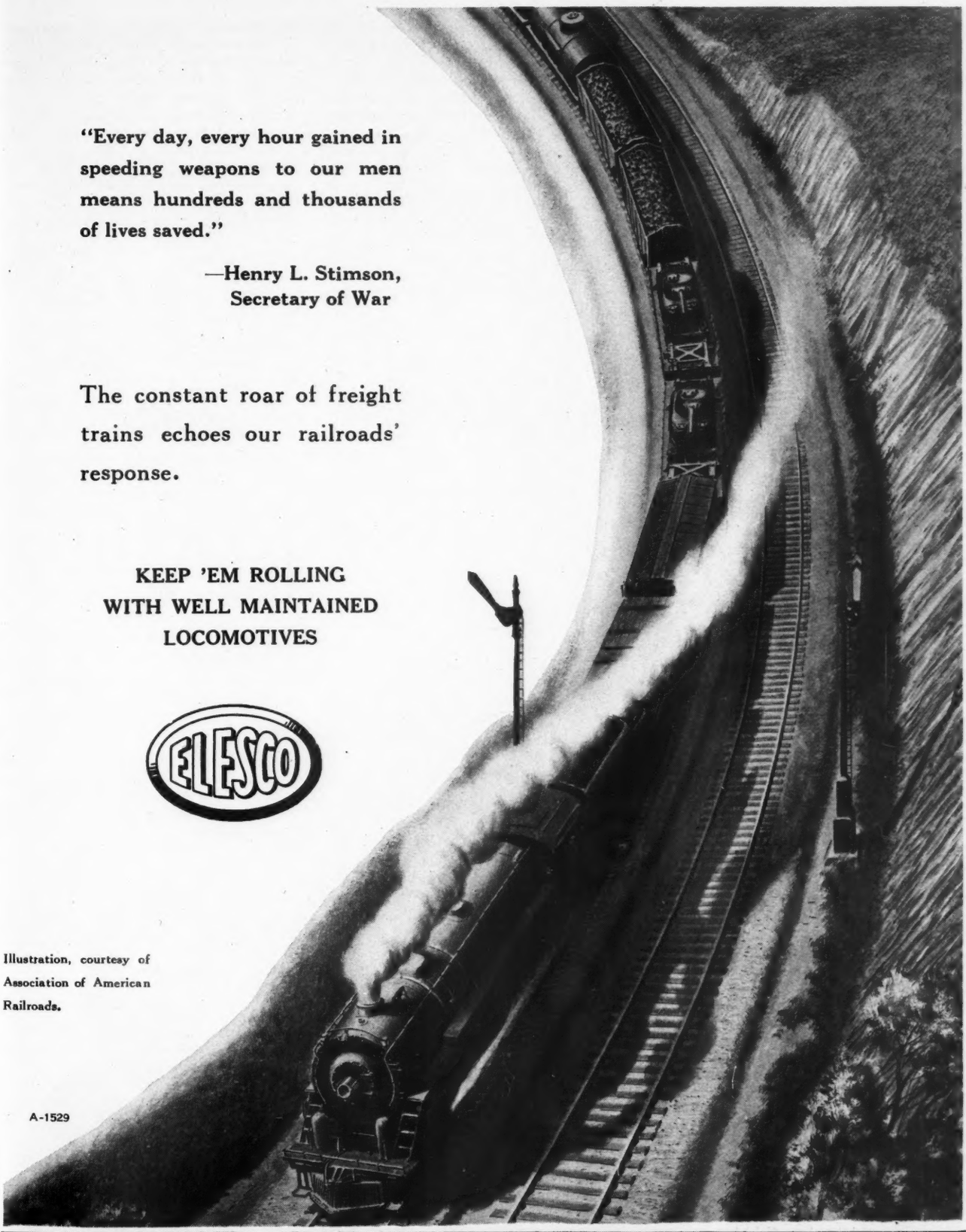
WITH WELL MAINTAINED
LOCOMOTIVES

ELESCO

Illustration, courtesy of Association of American Railroads.

A-1529



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roe, succeeding Mr. Hughes. **W. A. Catlett** has been appointed trainmaster at Nevada, relieving Mr. Jones.

W. M. Thompson, assistant manager of communications, Western lines, with headquarters at Winnipeg, Man., has been promoted to assistant general manager of the system, with headquarters at Montreal, Que. **D. L. Howard,** assistant to general manager of communications, at Montreal, has been promoted to assistant manager of communications in charge of Western lines, at Winnipeg.

E. W. Stanley, trainmaster of the Missouri Pacific at Little Rock, Ark., has been promoted to assistant superintendent of the Arkansas division, with the same headquarters, and **D. E. Hilton,** assistant trainmaster at Little Rock, has been advanced to trainmaster, succeeding Mr. Stanley. **H. D. Masters** has been appointed terminal trainmaster of the Little Rock terminal, with headquarters at No. Little Rock.

George H. Kilborn, assistant superintendent of the Portland division of the Southern Pacific, with headquarters at Portland, Ore., has been promoted to superintendent of the Shasta division, with headquarters at Dunsmuir, Cal., succeeding **E. F. Nassoiy,** who has been appointed assistant superintendent at Stockton, Cal., replacing **L. R. Smith,** who has been transferred to Oakland Pier, Cal. **Clarence H. Grant,** trainmaster at Portland, has been advanced to assistant superintendent at that point, relieving Mr. Kilborn. **R. C. Snyder** has been appointed safety supervisor, with headquarters at San Francisco, Cal.

H. H. Tisdalé, assistant to the general manager of the Coast lines of the Atchison, Topeka & Santa Fe at Los Angeles, Cal., has been appointed acting assistant general manager, with the same headquarters, succeeding **Frederick J. MacKie,** who has been granted a leave of absence because of illness. **W. L. More,** superintendent of the San Francisco Terminal division, with headquarters at San Francisco, Cal., has been appointed superintendent of the Los Angeles division, with headquarters at San Bernardino, Cal., relieving **Vance H. Wilson,** who has also been granted a leave of absence because of illness. **R. J. Breton,** general inspector of transportation at Los Angeles, has been promoted to acting superintendent of the San Francisco Terminal division, replacing Mr. More.

A. N. Summers, chief clerk of the superintendent of the Valley division at Fresno, Cal., has been promoted to assistant to the general manager at Los Angeles, succeeding Mr. Tisdale. **R. G. Cranston,** conductor at Alhambra, Cal., has been advanced to general inspector of transportation at Los Angeles, relieving Mr. Breton.

R. A. McQuade, assistant superintendent of the St. Lawrence division of the Canadian National, has been promoted to superintendent of transportation, Montreal district, with headquarters at Montreal, Que., succeeding **F. A. Rutherford,** who has retired on pension after more than 48 years of service. Mr. McQuade was born at Shanly, Ont., and started railway work as an operator at the age of 19 with the Canada Atlantic (Canadian National). After service in the operating department in various capacities, he became assistant superintendent of the St. Lawrence division in 1938, which position he held until his present promotion.

Mr. Rutherford was born at Parkhill, Ont., and commenced his railway career at the age of 17 with the Grand Trunk (Canadian National) as assistant operator. After serving in various capacities in the operating department he was appointed superintendent of transportation, Montreal district, in 1923, which position he held until his retirement.

Effective October 1, Baltimore & Ohio lines from Philadelphia, Pa., to its Western terminals at Chicago and St. Louis, Mo., were constituted into three regions—Eastern, Central and Western—instead of being divided as now into two districts—Eastern and Western lines. Each of the three regions cover about 2,100 miles of line and will be in charge of a general manager, with a staff consisting of a superintendent of transportation, superintendent of motive power, engineer maintenance of way, and division superintendents. The position of general superintendent, who has heretofore been in charge of two or more divisions, has been abolished.

C. M. Shriver, general superintendent at Baltimore, Md., has been appointed general manager of the New York Terminal region (formerly the New York Terminal lines). **F. G. Hoskins,** general manager of the Eastern lines at Baltimore, retains that position on the Eastern region, which comprises the Baltimore, Baltimore terminal, Cumberland, Monongah and Wheeling divisions, with headquarters at Baltimore. The Central region, with headquarters at Pittsburgh, comprises the Pittsburgh, Buffalo, and Akron-Chicago divisions, with **J. D. Beltz,** now general superintendent of the Pennsylvania district, as general manager. The Western region, with headquarters at Cincinnati, Ohio, consists of the Newark, Ohio, St. Louis, Toledo and Indianapolis divisions, with **F. B. Mitchell,** formerly general manager of the Western lines at Cincinnati, as general manager.

C. B. Harveson, engineer maintenance of way, and **E. J. McSweeney,** superintendent motive power, of the Eastern lines, continue in the same capacities on the Eastern region. **W. C. Baker** continues as general superintendent of transportation for the system, his staff in Baltimore handling this assignment for the Eastern region. **H. H. Harsh,** division superintendent at Newark, Ohio, has been appointed engineer maintenance of way of the Central region at Pittsburgh. **Harry Rees,** superintendent motive power of the Western lines at Cincinnati, has been transferred to the Central region at Pittsburgh. **O. C. Lott,** division superintendent at Pittsburgh, has been appointed superintendent transportation of the Central region. **S. A. Jordan,** engineer maintenance of way of the Western lines at Cincinnati, retains that position on the Western region. **H. J. Burkley,** district master mechanic, Western Lines, at Cincinnati, has been promoted to superintendent motive power of the Western region, with the same headquarters. **C. R. Elkins,** superintendent transportation of the Western Lines, remains in that capacity on the Western region at Cincinnati. **C. C. Pitcher,** superintendent of the New York Terminal lines at St. George, Staten Island, N. Y., has been appointed superintendent of the Pittsburgh division. **J. J. Sell,** terminal superintendent at Philadelphia, Pa., has been appointed superintendent of the New York Terminal region. **J. D. Warfield** has been appointed terminal superintendent at Philadelphia. **C. T. Williams** has been appointed superintendent of the Newark division. **J. W. Purdy,** division engineer maintenance of way at Akron, Ohio, has been appointed assistant superintendent of the Akron-Chicago division.

ENGINEERING & SIGNALING

J. B. Martin, general inspector of track of the New York Central, Lines West of Buffalo, with headquarters at Cleveland, Ohio, retired on September 30.

W. G. Cowie, supervisor of track of the New York Central system at Rochester, N. Y., has been appointed division engineer of the River division, with headquarters at Weehawken, N. J.

Charles T. Warren, whose promotion to engineer of track of the Wabash, with headquarters at St. Louis, Mo., was reported in the *Railway Age* of September 12, was born at Elizabethtown, Ky., on August 2, 1899, and graduated in civil engineering from Ohio Northern University in 1925. He entered railway service on October 1, 1925, as a bridge inspector and rodman on the Wabash at St. Louis, and on April 1, 1926, he was promoted to assistant engineer at Detroit, Mich. Mr. Warren was appointed maintenance inspector, with headquarters at St. Louis, on July 1, 1928, and on March 1, 1929, he was promoted to acting division engineer at Detroit. Three months later, he was appointed assistant engineer at Montpelier, Ohio, and on June 1, 1931, he was appointed track supervisor at La Fayette, Ind. Mr. Warren was promoted to division engineer of the Ann Arbor (Wabash subsidiary),

Charles T. Warren

News Department continued on next left-hand page

Here Are You!

PERHAPS you haven't really got a wrench in your hand...perhaps you're not actually swinging a hammer.

But it's you who are building the tanks, gun carriages, rifle springs, turret parts, bombs, steam and Diesel locomotives coming out of our plants... and hundreds of other factories in this country.

It's *you*, the American people, with the money you put into war stamps, bonds, taxes, who are turning out the weapons coming off America's production lines...a volume of mobile power that will help to assure a decent world.

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with headquarters at Owosso, Mich., on August 1, 1934, and on March 10, 1936, he was transferred to the Wabash at Decatur, Ill., which position he held until his recent promotion, effective July 29.

F. H. Simpson, assistant district engineer of the New York Central (Michigan Central) at Detroit, Mich., has been transferred to the Lines West of Buffalo, with headquarters at Cleveland, Ohio, succeeding **L. B. Holt,** who retired on September 30. **E. J. Bayer,** division engineer at Weehawken, N. J., has been promoted to assistant district engineer at Detroit, succeeding Mr. Simpson.

Walter C. Schakel, assistant division engineer of the Ohio division of the New York Central (Big Four) at Bellefontaine, Ohio, has been promoted to assistant engineer of structures, with headquarters at Cincinnati, Ohio, succeeding **G. E. Robinson,** who has been transferred to the Lines West of Buffalo, with headquarters at Cleveland, Ohio, replacing **V. K. Hoffner,** who retired on September 30.

TRAFFIC

Effective September 28, the Philadelphia, Pa., offices of the freight traffic department of the Baltimore & Ohio and the Alton were transferred from 742 Widener building to new quarters in the Baltimore & Ohio passenger station, 24th and Chestnut streets, Room No. 100, located on the Chestnut street level.

J. H. Hatcher, manager development service of the Atlantic Coast Line, with headquarters at Wilmington, N. C., has been promoted to assistant to vice-president, with the same headquarters. **R. P. Jobb,** assistant general freight agent at Miami, Fla., has been appointed manager development service at Wilmington, succeeding Mr. Hatcher.

J. C. Beene, assistant general freight agent of the Reading, with headquarters at Philadelphia, Pa., has been granted a furlough for military service. **E. L. Dash** has been appointed acting assistant general freight agent. **H. A. J. Kenney,** industrial agent at Philadelphia, has been appointed acting division freight agent and **A. C. Levy** has been appointed acting industrial agent.

L. H. Doty, general freight agent of the Akron, Canton & Youngstown, has been promoted to assistant freight traffic manager, with headquarters at Akron, Ohio, succeeding **W. E. Hines,** who has accepted a commission as Major in the Transportation Corps of the United States Army. **J. A. Beech,** assistant to the traffic manager, has been promoted to general freight agent at Akron, succeeding Mr. Doty.

Richard H. M. Falls, assistant manager of the tariff and ticket bureau of the Canadian Pacific, with headquarters at Montreal, Que., has been promoted to manager of that bureau, succeeding **J. C. Glendinning,** who retired on September 30, after 54 years in railway service, 37 of which were spent with the Canadian Pacific. **G. J. Phelan,** chief clerk, tariff and ticket bureau, succeeds Mr. Falls as assistant manager of the bureau.

MECHANICAL

W. R. Sugg, superintendent of fuel conservation and lubrication of the Missouri Pacific, with headquarters at St. Louis, Mo., has been promoted to general supervisor of air brakes, with the same headquarters, succeeding **J. P. Stewart,** who retired on September 30, and **J. J. Freibolt,** road foreman of engines at No. Little Rock, Ark., has been advanced to superintendent of fuel conservation and lubrication at St. Louis, replacing Mr. Sugg.

H. M. McKay, whose appointment as electrical engineer of the Central of Georgia at Savannah, Ga., was reported in the *Railway Age* of August 22, was born on September 12, 1901, at Macon, Ga. Mr. McKay entered railway service in 1920 as electrical apprentice in the Macon shops of the Central of Georgia, becoming electrician in 1922. In 1925 he was promoted to traveling electrician, with headquarters at Savannah, and in August, 1937, he became engineer air conditioning and car lighting in the office of the superintendent of motive power, which position he held until his recent appointment.

H. M. McKay

PURCHASES AND STORES

C. M. Butler, fuel agent of the Atlantic Coast Line, with headquarters at Wilmington, N. C., retired from active service on September 30, after more than 45 years of service with this road and its predecessor companies. Effective October 1 the duties theretobefore performed by the fuel agent will be transferred to the purchasing agent.

W. H. Post, whose promotion to assistant purchasing agent of the Northern Pacific, with headquarters at St. Paul, Minn., was reported in the *Railway Age* of September 12, was born at St. Paul on December 2, 1894, and attended business college. He entered railway service in June, 1913, in the stores department of the Northern Pacific, serving as material clerk, local storekeeper, shop timekeeper and chief clerk to the division storekeeper at St. Paul and Glendive, Mont. In February, 1920, he returned to St. Paul and in 1932 he was advanced to chief clerk to the purchasing agent. Mr. Post was promoted to assistant to the purchasing agent, with headquarters at St. Paul, earlier this year, which position he held until his recent promotion.

W. H. Post

D. E. Dawson, traveling storekeeper of the Gulf, Mobile & Ohio, has been promoted to tie and timber agent, with headquarters at Mobile, Ala., and **D. G. McKenzie,** division storekeeper at Tuscaloosa, Ala., has been advanced to traveling storekeeper, succeeding Mr. Dawson. **W. F. Prince** has been appointed division storekeeper at Tuscaloosa, relieving Mr. McKenzie.

SPECIAL

H. Travers Coleman, press representative of the Canadian Pacific at Vancouver, B. C., has been transferred to Winnipeg, Man., during the absence of **J. H. Campbell,** who has been assigned to other duties.

Harold V. Bostock, chief clerk to the manager of the employees' suggestion system of the Illinois Central, has been promoted to assistant manager of the employees' suggestion system, with headquarters as before at Chicago.

Augustus Griffin, assistant manager of the department of natural resources of the Canadian Pacific, with headquarters at Calgary, Alta., has been promoted to manager of that department, with the same headquarters, succeeding **Samuel G. Porter,** who has been appointed chairman of the advisory committee of the department of natural resources, relieving **P. L. Naismith,** who retired on September 1.

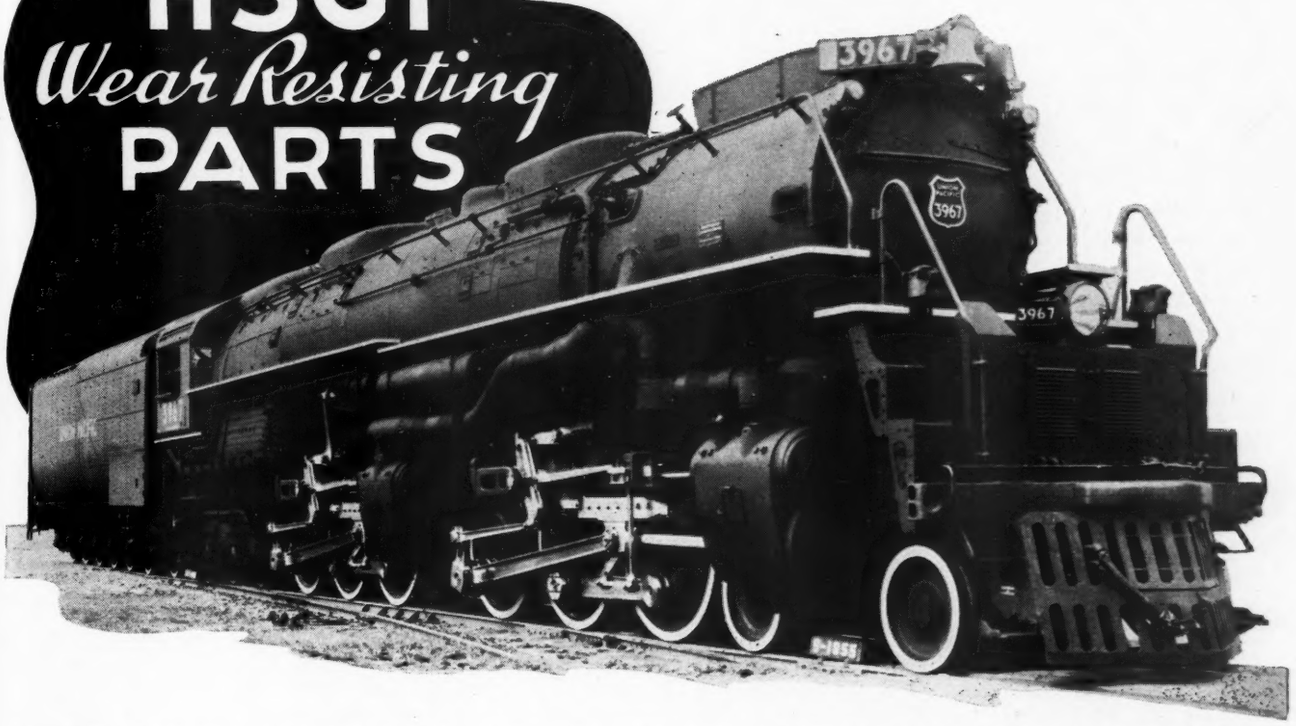
OBITUARY

L. S. Wilbur, statistician of the Chesapeake & Ohio, with headquarters at Richmond, Va., died on September 18.

Okane J. McGillis, advertising agent of the Great Northern, with headquarters at St. Paul, Minn., died suddenly in that city on September 27.

Table of Freight Operating Statistics appears on next left-hand page

HSGI *Wear Resisting* PARTS



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Performance reports show that many HSGI parts go through several shoppings before renewals are necessary. The increased service life is effecting unusual economies in running and classified repairs.

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Finished Parts
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Duplex Sectional Type Packing
for Cylinders and Valves
(Duplex Springs for Above
Sectional Packing)
Cylinder Snap Rings
Valve Rings, All Shapes
Light Weight Valves
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Freight Operating Statistics of Large Steam Railways—Selected Items

Region, road, and year	Miles of road operated	Train-miles	Locomotive-miles: Principal and helper	Locomotive-miles: Light	Car-miles: Loaded (*thousands*)	Car-miles: Per cent loaded	Ton-miles (*thousands*): Gross excl. locos. & tenders	Ton-miles (*thousands*): Net-rev. and non-rev.	Road locos. on line: Serviceable: Unstored	Road locos. on line: Serviceable: Stored	Road locos. on line: Per cent: B. O.	Road locos. on line: Per cent: B. O.
New England Region:												
Boston & Albany 1942	362	215,186	264,282	55,268	5,965	55.8	431,963	175,467	71	..	18	20.2
1941	362	169,797	176,076	12,628	3,755	64.3	229,176	87,991	64	2	20	23.3
Boston & Maine 1942	1,849	367,263	428,637	47,537	12,586	63.7	833,011	359,064	145	3	21	12.4
1941	1,894	338,298	385,785	34,490	12,637	69.5	724,767	286,802	135	3	27	16.4
N. Y., New H. & Hartf.† 1942	1,821	506,104	643,216	62,389	18,078	64.1	1,158,225	495,159	224	..	32	17.4
1941	1,829	450,403	558,254	41,630	16,513	67.0	927,809	357,945	199	..	55	19.9
Great Lakes Region:												
Delaware & Hudson 1942	849	344,685	432,745	45,485	12,494	61.7	916,971	459,361	161	17	50	21.9
1941	849	311,973	369,004	41,370	11,606	65.2	770,822	369,182	133	32	80	32.7
Del., Lack. & Western 1942	982	370,171	427,007	61,326	15,280	65.5	1,028,095	475,162	134	23	36	18.7
1941	983	392,129	452,001	62,712	15,504	71.0	925,884	400,625	143	3	63	30.1
Erie 1942	2,251	910,825	968,694	60,828	38,720	63.0	2,706,081	1,143,275	301	20	84	20.7
1941	2,257	850,155	898,076	51,755	37,424	67.0	2,345,257	927,909	271	10	145	34.0
Grand Trunk Western 1942	1,026	283,336	289,247	1,945	8,462	61.4	574,488	239,156	62	1	15	19.2
1941	1,023	279,052	284,596	1,828	8,750	63.3	543,147	197,787	72	1	18	19.8
Lehigh Valley 1942	1,251	477,205	529,186	91,397	19,429	61.4	1,378,019	644,597	136	11	11	7.0
1941	1,251	397,025	432,063	68,917	16,197	68.0	1,036,826	467,837	131	16	36	19.7
New York Central 1942	10,494	3,808,853	4,167,991	242,904	140,018	58.8	10,246,376	4,630,080	1,209	5	185	13.2
1941	10,521	3,190,515	3,403,441	204,787	114,636	62.2	7,748,789	3,386,831	1,039	93	250	18.1
New York, Chi. & St. L..... 1942	1,657	913,204	929,916	11,298	32,968	61.2	2,270,368	977,132	168	..	14	7.7
1941	1,672	625,910	639,683	8,222	24,215	67.4	1,483,243	605,822	149	..	19	11.3
Pere Marquette 1942	2,021	387,959	396,613	8,309	11,486	63.3	779,205	346,501	132	4	23	14.5
1941	2,068	402,630	415,201	8,523	11,432	66.7	717,564	298,447	129	..	25	16.2
Pitts. & Lake Erie 1942	233	109,216	112,490	42	4,701	63.1	413,490	244,435	45	2	11	19.0
1941	232	105,774	107,850	83	4,465	64.6	378,983	222,207	44	..	14	24.1
Wabash 1942	2,381	839,090	865,497	19,440	28,302	61.9	1,933,528	834,500	171	11	45	19.8
1941	2,397	674,373	691,307	13,426	23,164	69.6	1,383,009	547,626	146	18	95	36.7
Central Eastern Region:												
Baltimore & Ohio 1942	6,213	2,418,143	3,053,894	366,082	78,358	61.0	5,796,920	2,794,225	940	9	198	17.3
1941	6,245	1,961,375	2,461,515	261,030	65,420	64.2	4,521,667	2,122,108	838	89	212	18.6
Central of New Jersey† 1942	661	264,219	302,477	63,348	8,542	56.5	646,681	321,982	115	12	19	13.0
1941	680	219,011	245,205	45,345	6,884	61.6	486,478	237,603	88	8	48	33.3
Chicago & Eastern Ill. 1942	925	230,117	232,657	4,815	6,360	62.6	441,468	202,339	54	4	12	17.1
1941	925	179,487	181,627	3,130	5,026	68.7	307,829	135,918	56	11	24	26.4
Elgin, Joliet & Eastern 1942	392	145,999	148,394	2,178	4,036	64.0	314,425	165,970	69	..	10	12.7
1941	390	129,469	130,963	1,807	3,585	60.4	280,095	141,584	65	1	11	14.3
Long Island 1942	374	30,263	31,555	19,609	353	50.8	28,049	11,326	45	1	2	4.2
1941	375	30,046	31,394	19,870	297	51.0	22,636	8,517	35	7	6	12.5
Pennsylvania System 1942	9,952	4,882,768	5,760,620	749,743	182,612	60.5	13,484,317	6,465,037	1,999	6	153	7.1
1941	9,960	4,095,630	4,836,482	586,789	155,566	63.2	10,846,908	5,046,787	1,695	70	394	18.2
Reading 1942	1,423	616,516	687,211	89,465	18,826	59.7	1,453,796	756,136	281	11	33	10.2
1941	1,430	512,281	566,688	67,252	15,562	63.4	1,112,040	562,595	258	12	71	20.8
Pocahontas Region:												
Chesapeake & Ohio 1942	3,041	1,066,272	1,141,770	52,777	48,331	56.2	4,200,676	2,334,855	428	6	68	13.5
1941	3,053	1,003,837	1,061,923	49,417	47,423	57.8	3,991,094	2,216,663	408	25	62	12.5
Norfolk & Western 1942	2,142	801,898	847,729	50,088	34,842	56.4	3,062,017	1,644,420	305	9	22	6.5
1941	2,169	778,865	817,928	46,109	35,547	58.6	3,012,095	1,610,433	301	16	26	7.6
Southern Region:												
Atlantic Coast Line 1942	4,984	884,585	917,076	13,247	21,381	61.4	1,476,495	653,576	341	14	29	7.6
1941	5,071	686,142	693,523	9,793	15,091	63.3	947,466	377,516	277	20	39	11.6
Central of Georgia† 1942	1,783	314,866	319,726	5,050	7,029	66.5	459,794	197,851	110	..	12	9.8
1941	1,831	322,679	325,908	5,357	7,026	68.2	419,707	167,469	101	..	16	13.7
Gulf, Mobile & Ohio 1942	1,959	368,883	464,583	7,474	12,701	67.5	823,176	383,324	111	1	6	5.1
1941	1,962	263,071	302,962	3,075	8,706	69.1	522,693	224,778	89	5	13	12.1
Illinois Central (incl. 1942	6,436	1,827,799	1,843,652	36,305	63,823	59.8	4,589,455	2,081,982	601	6	65	9.7
Yazoo & Miss. Vy.) 1941	6,521	1,511,641	1,518,372	27,272	46,778	62.4	3,109,702	1,333,755	597	30	134	17.6
Louisville & Nashville 1942	4,788	1,589,859	1,733,119	45,930	38,854	60.5	2,862,923	1,426,968	428	1	46	9.7
1941	4,794	1,345,286	1,450,892	38,868	34,417	61.1	2,451,319	1,202,921	342	52	63	13.8
Seaboard Air Line* 1942	4,232	916,853	1,018,799	13,926	22,577	63.3	1,563,139	710,760	297	..	30	9.2
1941	4,298	698,850	730,220	4,363	16,580	63.1	1,065,054	442,293	259	..	44	14.5
Southern 1942	6,469	2,119,627	2,162,482	31,823	45,462	63.2	3,031,059	1,309,512	588	..	81	12.1
1941	6,521	1,763,632	1,791,133	26,262	40,482	66.0	2,421,185	993,481	555	1	102	15.5
Northwestern Region:												
Chi. & North Western† 1942	8,262	1,038,884	1,089,777	22,740	32,866	62.6	2,308,459	1,035,280	342	35	155	29.1
1941	8,305	1,013,322	1,053,022	23,236	33,280	63.8	2,169,729	865,280	327	13	219	39.2
Chicago Great Western 1942	1,447	272,748	276,167	6,047	8,169	63.3	552,169	227,285	71	5	11	12.6
1941	1,447	276,246	280,839	5,761	8,634	64.6	539,892	204,706	67	4	10	12.3
Chi., Milw., St. P. & Pac.† .. 1942	10,813	1,437,770	1,503,385	61,024	45,675	63.8	3,160,445	1,439,933	445	75	86	14.2
1941	10,846	1,517,801	1,581,051	58,310	47,622	63.1	3,147,636	1,345,704	469	25	107	17.8
Chi., St. P., Minneap. & Om.. 1942	1,618	214,612	229,876	10,034	5,393	65.4	358,182	153,227	107	16	10	7.5
1941	1,618	238,695	252,218	12,966	6,218	66.8	388,959	158,098	103	10	18	13.7
Duluth, Missabe & I. R..... 1942	544	195,816	197,005	2,194	10,721	50.9	949,404	577,320	55	..	1	1.8
1941	542	157,059	158,102	1,867	8,936	51.3	794,587	484,642	53	..	1	1.9
Great Northern 1942	7,981	1,163,468	1,161,099	34,793	45,240	61.9	3,475,299	1,721,234	380	33	74	15.2
1941	7,977	1,179,897	1,179,798	37,501	42,921	59.1	3,267,003	1,513,445	362	24	120	23.7
Minneap., St. P. & S. St. M.† . 1942	4,258	454,889	464,981	8,403	12,288	62.1	854,874	388,300	121	4	7	5.3
1941	4,251	474,297	483,710	6,684	12,919	65.7	821,965	363,377	122	..	10	7.6
Northern Pacific 1942	6,593	924,756	992,093	71,109	35,973	68.6	2,402,568	1,130,977	351	31	52	12.0
1941	6,414	872,349	936,873	58,440	32,039	67.9	2,047,642	906,047	340	19	59	14.1
Central Western Region:												
Alton 1942	915	301,371	332,783	1,600	8,029	66.4	547,611	245,062	72	..	4	5.3
1941	915	229,633	248,665	1,458	5,505	65.0	354,288	157,775	68	3	7	9.0
Atch., Top. & S. Fe (incl. 1942	13,361	3,473,587	3,795,357	204,335	103,527	60.2	7,565,125	2,989,223	817	9	102	11.0
G. C. & S. F. & P. & S. F.) 1941	13,431	2,770,537	3,036,828	169,189	83,192	61.8	5,584,362	2,011,961	729	25	124	14.1
Chi., Burl. & Quincy 1942	8,888	1,394,045	1,472,069	61,528	45,366	64.3	3,145,266	1,469,582	442	2	79	15.1
1941	8,923	1,378,243	1,424,416	51,469	44,122	62.8	2,950,552	1,261,197	433	7	93	17.4
Chi., Rock I. & Pac.† 1942	7,892	1,440,314	1,519,943	15,432	39,078	63.9	2,693,527	1,180,385	368	15	94	19.7
1941	7,911	1,286,226	1,324,820	11,954	34,598	63.1	2,233,915	903,272	356	18	116	23.7
Denver & R. G. Wn.† 1942	2,405	465,472	539,240	84,338	14,799	70.0	965,089	456,086	162	11	22	11.3
1941	2,547	339,508	387,615	51,523	10,260	67.1	659,423	279,403	144	12	28	15.2
Southern Pacific—Pac. Lines. 1942	8,338	2,358,379	2,638,143	391,002	89,145	64.9	5,986,342	2,468,628	827	4	99	10.6
1941	8,490	2,063,026	2,270,876	313,424	74,242	62.0	4,904,507	1,747,960	755	10	85	10.0
Union Pacific 1942	9,852	2,686,017	2,815,089	208,795	93,813	66.1	6,261,366	2,744,127	794	13	80	9.0
1941	9,872	2,644,537	2,746,416	166,371	77,651	63.5	4,936,897	1,856,649	683	16	135	16.2
Southwestern Region:												
Mo.-Kans.-Texas Lines 1942	3,281	570,770	580,952	8,870	15,084	63.1	990,282	419,329	132	1	43	24.4
1941	3,281	463,897	468,443	8,353	12,144	65.4	743,813	292,913	85	..	95	52.8
Missouri Pacific† 1942	7,102	1,846,934	1,929,142	40,544	57,314	61.9	4,143,685	1,881,439	510	4	54	9.5
1941	7,110	1,307,205	1,343,585	25,203	40,155	67.1	2,585,568	1,110,384	427	10	65	12.9
Texas & Pacific 1942	1,887	415,387	415,387	3,398	13,093	65.1	883,929	344,829	114	8	35	22.3
1941	1,891	309,765	309,765	1,636	10,147	66.4	636,596	234,107	83	21	80	43.5
St. Louis-San Francisco† 1942	4,640	1,013,575	1,072,104	21,955	24,113	60.0	1,684,363	714,766	316	..	24	7.1
1941	4,735	803,221	823,587	13,930	18,768	64.0	1,196,987	493,134	271	18	34	10.5
St. Louis-San Fran. & Texas. 1942	159	39,400	40,703	48	610	60.7	41,191	16,664	10	..	1	9.1
1941	159	30,081	30,805	38	509	59.7	35,293	12,924	11	2	..	..
St. Louis Southw. Lines† ... 1942	1,600	531,537	539,975	6,746	16,950	62.5	1,121,864	464,269	114	2	15	11.5
1941	1,600	334,594	338,708	4,301	10,299	72.9	592,197	248,009	85	12	23	19.2
Texas & New Orleans 1942	4,392	1,073,452	1,079,930	24,230	28,559	63.6	1,946,852	833,462	237	8	20	7.5
1941	4,415	754,192	754,440	5,481	18,654	63.1	1,241,701	497,359	221	13	30	11.4

* Report of receivers.
† Report of trustee or trustees.

for the Month of July 1942, Compared with July 1941

Region, road, and year	Freight cars on line: Home	Foreign	Total	Per Cent B. O.	G.t.m. per train-hr. excl. locos and tenders	G.t.m. per train-mi. excl. locos and tenders	Net ton-mi. per train-mile	Net ton-mi. per l'd. car-mile	Net ton-mi. per car-day	Car miles per car-day	Net daily ton-mi. per road-mi.	Coal lb. per 1000 g.t.m. inc. loco.	Mi. per loco. per day
New England Region:													
Boston & Albany 1942	449	6,277	6,726	0.2	32,527	2,022	821	29.4	835	50.9	15,636	129	123.2
1941	691	5,642	6,333	1.6	23,436	1,362	523	23.4	449	29.8	7,841	133	77.0
Boston & Maine 1942	3,346	8,498	11,844	2.5	33,787	2,277	981	28.5	943	51.9	6,264	86	94.9
1941	3,497	10,540	14,037	2.6	29,450	2,151	851	22.7	662	42.0	4,885	88	87.5
N. Y., New H. & Hartf.†....1942	4,999	17,799	22,798	3.2	32,947	2,329	996	27.4	689	39.3	8,771	92	96.7
1941	3,728	18,768	22,496	2.5	29,304	2,089	806	21.7	501	34.5	6,313	95	82.9
Great Lakes Region:													
Delaware & Hudson 1942	7,071	5,027	12,098	4.1	42,757	2,679	1,342	36.8	1,228	54.1	17,454	94	72.5
1941	5,798	6,111	11,909	4.2	38,684	2,489	1,192	31.8	1,014	48.9	14,027	97	57.3
Del., Lack. & Western 1942	8,321	9,090	17,411	2.6	45,487	2,805	1,297	31.1	873	42.9	15,609	105	86.1
1941	6,811	10,201	17,012	3.4	40,016	2,391	1,034	25.8	754	41.1	13,147	117	82.9
Erie 1942	12,834	23,427	36,261	2.1	50,193	2,990	1,263	29.5	1,040	55.9	16,384	83	89.0
1941	11,335	22,562	33,897	2.2	48,202	2,783	1,101	24.8	910	54.8	13,262	84	79.4
Grand Trunk Western 1942	3,787	6,135	9,922	2.8	43,651	2,037	848	28.3	767	44.2	7,519	75	127.4
1941	3,823	8,398	12,221	5.4	36,801	1,963	715	22.6	522	36.4	6,237	81	111.8
Lehigh Valley 1942	8,487	19,247	27,734	2.2	50,631	2,957	1,383	33.2	782	38.4	16,621	100	134.5
1941	6,417	14,398	20,815	1.3	48,969	2,659	1,200	28.9	751	38.2	12,064	99	94.5
New York Central 1942	65,363	80,359	145,722	3.2	45,823	2,727	1,232	33.1	1,042	53.6	14,233	85	112.4
1941	60,769	79,955	140,724	6.2	40,537	2,455	1,073	29.5	774	42.1	10,384	91	95.3
New York, Chi. & St. L....1942	6,081	13,516	19,597	1.6	46,109	2,491	1,072	29.6	1,630	89.9	19,023	79	176.0
1941	3,922	12,655	16,577	2.1	43,951	2,373	969	25.0	1,261	74.8	11,688	79	135.8
Pere Marquette 1942	6,509	6,183	12,692	3.3	35,798	2,024	900	30.2	865	45.3	5,531	82	88.7
1941	5,374	7,920	13,294	2.5	31,039	1,793	746	26.1	696	40.0	4,655	85	97.6
Pitts. & Lake Erie 1942	6,087	7,087	13,174	7.7	52,701	3,792	2,242	52.0	600	18.3	33,841	73	65.1
1941	7,822	9,274	17,096	8.7	47,809	3,599	2,110	49.8	447	13.9	30,896	80	66.3
Wabash 1942	10,442	14,200	24,642	1.0	44,495	2,343	1,011	29.5	1,101	60.3	11,306	96	130.1
1941	8,640	13,621	22,261	1.1	41,077	2,079	823	23.6	810	49.2	7,370	95	92.5
Central Eastern Region:													
Baltimore & Ohio 1942	46,198	43,083	89,281	2.3	32,879	2,445	1,178	35.7	991	45.6	14,508	129	101.1
1941	43,063	37,906	80,969	3.1	31,445	2,344	1,100	32.4	843	40.5	10,962	128	81.8
Central of New Jersey† 1942	8,292	17,970	26,262	1.2	31,472	2,507	1,248	37.7	395	18.6	15,713	117	104.7
1941	5,264	15,037	20,301	3.3	29,532	2,315	1,131	34.5	365	17.2	11,271	118	83.2
Chicago & Eastern Ill. 1942	2,403	3,374	5,777	3.6	34,439	1,964	900	31.8	1,142	57.3	7,056	107	115.5
1941	2,610	3,476	6,086	5.0	31,909	1,724	761	27.0	702	37.8	4,740	108	69.1
Elgin, Joliet & Eastern 1942	8,920	5,893	14,813	3.4	18,237	2,220	1,172	41.1	361	13.7	13,658	118	88.5
1941	9,764	7,898	17,662	4.2	18,226	2,220	1,122	39.5	257	10.8	11,711	105	80.7
Long Island 1942	19	3,922	3,941	0.6	7,161	935	378	32.1	95	5.9	977	281	48.0
1941	73	3,801	3,874	0.4	5,581	774	291	28.7	66	4.5	733	309	48.1
Pennsylvania System 1942	151,268	99,175	250,443	3.6	39,652	2,837	1,360	35.4	840	39.3	20,956	102	105.3
1941	146,928	93,616	240,544	8.8	37,495	2,724	1,267	32.4	676	33.0	16,345	105	89.6
Reading 1942	17,870	18,868	36,738	4.8	30,560	2,365	1,230	40.2	660	27.5	17,141	111	87.4
1941	16,013	19,141	35,154	8.0	28,969	2,178	1,102	36.2	508	22.2	12,691	128	70.6
Pocahontas Region:													
Chesapeake & Ohio 1942	39,671	14,986	54,657	1.2	58,315	3,988	2,217	48.3	1,361	50.1	24,767	64	85.2
1941	38,820	16,605	55,425	1.2	58,697	4,030	2,238	46.7	1,303	48.3	23,421	63	79.3
Norfolk & Western 1942	32,365	6,951	39,316	2.1	61,172	3,889	2,089	47.2	1,283	48.2	24,765	81	93.3
1941	31,396	7,191	38,587	1.6	61,879	3,919	2,096	45.3	1,366	51.5	23,951	78	87.9
Southern Region:													
Atlantic Coast Line 1942	10,889	12,536	23,425	3.6	28,543	1,675	741	30.6	914	48.8	4,230	104	82.7
1941	10,837	7,683	18,520	9.6	24,694	1,387	553	25.0	637	40.2	2,401	107	71.8
Central of Georgia† 1942	2,817	4,912	7,729	1.4	26,001	1,477	636	28.1	744	39.8	3,580	113	94.0
1941	3,617	5,194	8,811	0.6	24,657	1,307	522	23.8	581	35.7	2,950	116	98.7
Gulf, Mobile & Ohio 1942	3,385	7,769	11,154	1.0	40,102	2,250	1,048	30.2	1,153	56.6	6,312	101	135.0
1941	2,705	5,259	7,964	2.4	36,511	1,991	856	25.8	989	55.5	3,696	100	96.0
Illinois Central (incl. 1942	26,662	26,722	53,384	1.1	40,612	2,552	1,158	32.6	1,265	64.8	10,435	99	93.4
Yazoo & Miss. Vy.) 1941	24,974	23,716	48,690	1.3	33,991	2,087	895	28.5	914	51.4	6,598	110	72.7
Louisville & Nashville 1942	35,000	17,993	52,993	2.1	27,445	1,801	898	36.7	861	38.7	9,614	114	127.9
1941	30,236	13,317	43,553	2.4	29,033	1,825	896	35.0	916	42.9	8,094	109	111.2
Seaboard Air Line* 1942	9,228	15,221	24,449	1.5	27,952	1,751	796	31.5	946	47.5	5,418	113	114.0
1941	9,803	9,154	18,957	2.1	26,961	1,546	642	26.7	757	44.9	3,320	117	86.9
Southern 1942	20,093	28,216	48,309	1.8	24,179	1,446	625	28.8	862	47.4	6,530	132	110.6
1941	18,564	22,833	41,397	5.7	23,692	1,383	568	24.5	765	47.3	4,915	134	93,9
Northwestern Region:													
Chi. & North Western† 1942	27,504	22,209	49,713	4.5	34,727	2,296	1,030	31.5	638	32.3	4,042	105	72.8
1941	26,810	24,858	51,668	6.5	32,792	2,206	880	26.0	512	30.9	3,361	105	67.1
Chicago Great Western 1942	1,949	3,555	5,504	1.6	36,843	2,027	835	27.8	1,332	75.6	5,067	108	111.8
1941	1,710	4,831	6,541	1.3	36,055	1,957	742	23.7	1,049	68.5	4,564	104	121.6
Chi., Milw., St. P. & Pac.†..1942	34,067	18,713	52,780	1.3	36,051	2,210	1,007	31.5	851	42.3	4,296	105	89.7
1941	36,466	27,439	63,905	1.2	33,975	2,088	893	28.3	674	37.8	4,002	106	96.1
Chi., St. P., Minneap. & Om..1942	1,828	6,361	8,189	5.3	23,036	1,689	722	28.4	597	32.1	3,055	96	62.7
1941	1,726	7,787	9,513	5.5	21,994	1,660	675	25.4	580	34.2	3,152	97	69.8
Duluth, Missabe & I. R....1942	13,249	497	13,746	2.2	83,186	4,983	3,030	53.8	1,361	49.7	34,234	56	133.5
1941	12,948	353	13,301	0.9	87,965	5,182	3,160	54.2	1,166	41.9	28,844	56	114.9
Great Northern 1942	29,510	14,593	44,103	2.6	47,903	3,001	1,486	38.0	1,260	53.5	6,957	78	85.3
1941	27,985	13,459	41,444	3.1	43,401	2,781	1,288	35.3	1,211	58.1	6,120	82	83.4
Minneap., St. P. & S. St. M.†.1942	10,113	4,766	14,879	3.0	32,081	1,889	858	31.6	838	42.7	2,942	83	116.7
1941	10,183	5,985	16,168	3.0	29,158	1,745	771	28.1	730	39.5	2,757	85	124.5
Northern Pacific 1942	25,682	10,060	35,742	4.5	41,700	2,612	1,229	31.4	1,010	46.8	5,534	114	85.2
1941	24,903	8,505	33,408	5.6	38,818	2,357	1,043	28.3	890	46.3	4,557	112	82.3
Central Western Region:													
Alton 1942	1,274	5,980	7,254	6.0	42,974	1,830	819	30.5	1,160	57.3	8,640	119	150.4
1941	967	6,158	7,125	4.1	37,376	1,559	694	28.7	694	37.3	5,562	127	110.3
Atch., Top. & S. Fe (incl. 1942	60,943	35,248	96,191	3.8	40,133	2,189	865	28.9	1,016	58.5	7,217	108	146.2
G. C. & S. F. & P. & S. F.).1941	59,761	24,675	84,436	4.7	38,690	2,023	729	24.2	746	49.9	4,832	107	124.7
Chi., Burl. & Quincy 1942	23,263	19,124	42,387	2.8	38,050	2,271	1,061	32.4	1,101	52.8	5,334	95	100.7
1941	23,318	25,635	48,953	1.8	35,922	2,150	919	28.6	893	49.8	4,559	96	94.3
Chi., Rock I. & Pac.† 1942	17,396	14,909	32,305	2.9	33,785	1,880	824	30.2	1,170	60.6	4,825	101	109.4
1941	16,245	15,255	31,500	3.6	32,023	1,741	704	26.1	873	53.0	3,683	99	93.8
Denver & R. G. Wn.† 1942	9,070	7,585	16,655	2.5	34,342	2,082	984	30.8	921	42.7	6,117	152	108.6
1941	9,881	5,271	15,152	3.1	33,587	1,951	827	27.2	623	34.1	3,539	145	82.0
Southern Pacific—Pac. Lines.1942	28,641	42,311	70,952	2.6	35,791	2,555	1,054	27.7	1,125	62.6	9,551	98	110.4
1941	28,044	36,655	64,699	2.7	35,709	2,396	854	23.5	891	61.0	6,641	96	108.8
Union Pacific 1942	35,364	38,058	73,422	4.1	45,582	2,353	1,031	29.3	1,269	65.7	8,985	111	114.6
1941	33,762	28,392	62,154	5.9	41,568	1,884	709	23.9	982	64.7	6,067	115	116.6
Southwestern Region:													
Mo.-Kans.-Texas Lines 1942	4,239	7,368	11,607	4.9	32,015	1,737	736	27.8	1,109	63.2	4,123	82	114.6
1941	5,196	5,941	11,137	11.9	30,534	1,606	632	24.1	840	53.3	2,880	78	91.7
Missouri Pacific† 1942	15,540	31,649	47,189	1.3	36,778	2,251	1,022	32.8	1,292	63.6	8,546	101	121.7
1941	14,313	26,013	40,326	1.6	34,934	1,990	855	27.7	883	47.6	5,038	104	95.9
Texas & Pacific 1942	2,747	5,594	8,341	2.5	41,234	2,141	835	26.3	1,282	74.8	5,895	87	91.7
1941	2,361	4,942	7,303	1.3	44,058	2,061	758	23.1	996	65.0	3,994	79	57.4
St. Louis-San Francisco† 1942	12,188	9,635	21,823	2.8	33,029	1,671	709	29.6	1,050	59.0	4,969	111	108.2
1941	13,713	7,596	21,309	3.0	30,621	1,497	617	26.3	647	41.3	3,360	109	89.3
St. Louis-San Fran. & Texas.1942	....	411	411	6.8	20,462	1,048	424	27.3	1,441	86.9	3,381	124	127.7
1941	....	479	479	1.5	25,030	1,176	430	25.4	788	52.0	2,622	114	71.7
St. Louis Southw. Lines† ...1942	2,196	6,105	8,301	0.9	34,387	2,126	880	27.4	1,601	93.5	9,360	75	142.0
1941	1,486	3,441	4,927	1.6	36,703	1,775	743	24.1	1,535	87.4	5,000	77	96.5
Texas & New Orleans 1942	4,635	22,812	27,447	1.5	33,313	1,831	784	29.2	1,051	56.6	6,122	80	141.3
1941	4,446	11,743	16,189	3.1	32,717	1,659	665	26.7	966	57.4	3,634	81	97.5

Compiled by the Bureau of Transport Economics and Statistics, Interstate Commerce Commission. Subject to revision.

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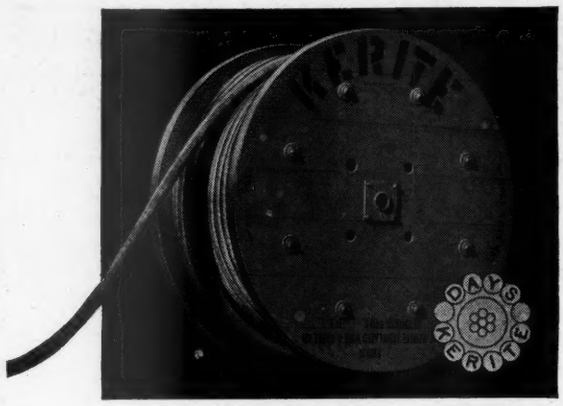

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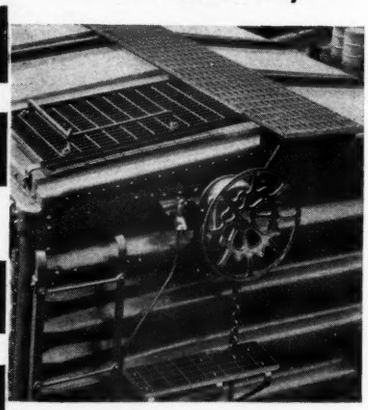

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